

1. Biographical Data

1.A Current Employment

Marija D. Ilic

Professor of Electrical & Computer Engineering (ECE) and Engineering & Public Policy (EPP)
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Director, Electric Energy Systems Group (EESG), <http://www.eesg.ece.cmu.edu>; and,

Director, SRC ERI/Smart Grid Research Center, <http://www.src.org/program/eri/sgrc/>; and,

Honorary Chaired Professor for Control of Future Electricity Network Operations
Faculty of Technology, Policy and Management (TPM), Delft University of Technology,
Delft, The Netherlands
<http://www.tbm.tudelft.nl/en/about-faculty/professors/professor-profile/marija-ilic/>; and,

Visiting Professor, M.I.T., Engineering Systems Division and MIT Energy Initiative,
Cambridge, MA 02139 (academic 2010--2012); and

New Electricity Transmission Software Solutions (NETSS), Inc, Founder and Owner

1.B Place and Date of Birth

Zajecar, Yugoslavia: February 11, 1951

1.C Education

Degree	Discipline	University	Date
Dipl. Ing.	Electrical Engineering	Belgrade, Yugoslavia	1974
MEE	Electrical Engineering	Belgrade, Yugoslavia	1977
M.Sc.	Systems Science and Mathematics	Washington University St. Louis, MO	1978
DSc	Systems Science and Mathematics	Washington University St. Louis, MO	1980

1.D Former Positions

Date	Employer/Position
Sept. 1976 - Aug. 1977	Institute for Automation and Telecommunications "Michael Pupin", Belgrade, Principal Research Engineer

Aug. 1975	Dec. 1980	Washington University: Student Research Assistant
Jan. 1981	Aug. 1981	Washington University: Research Associate and Lecturer
Aug. 1981	July 1982	Drexel University: Assistant Professor
July 1982	June 1984	Cornell University: Assistant Professor
June 1984	Aug. 1984	General Electric R&D Center: Visiting Researcher
Aug. 1984	Aug. 1986	University of Illinois: Assistant Professor
Aug. 1986	Aug. 1989	University of Illinois: Associate Professor (with tenure)
Sept. 1987	Sept. 1989	MIT: Visiting Associate Professor
Sept. 1989	2003	MIT: Senior Research Scientist
Dec. 2003	Dec. 2005	MIT/Engineering Systems Division: Visiting Professor (unpaid)
Sept. 2010	Sept. 2012	MIT/Engineering Systems Division/MITEI: Visiting Professor
Oct. 2002	present	Carnegie Mellon University, Professor (tenured), ECE/EPP

1.E Consulting Assignments

Sept. 1985	Sept. 1987	General Electric R&D Center
1988	1991	Decision Systems, International Inc.
Sept. 1989	Sept. 1991	New England Electric Service Co.
1989	1991	The Analytic Science Co.
1995		The Tabors and Caramanis Associates. Co.
Jan. 1990	Dec. 1990	Power Technologies, Inc.
1990		The ENMASS Co.
1991		Martin Marietta Energy Systems, Inc.
1996		US Department of Energy
1994	present	Brattle/IRI, Inc., Senior Advisor
1997		Standard Poor's (Energy)
1997		Fulcrum International, Inc.
1999 (appointed)		National Science Foundation
2002—present		New Electricity Transmission Software Solutions (NETSS), Inc.
2002		National Science Foundation
2002		California Independent System Operator (CA-ISO)
2003		Federal Energy Regulatory Commission (FERC)
2003		Lawrence Livermore National Laboratory (LLNL)
2003		National Science Foundation (NSF)
2004		Charles River Research, Inc (for First Energy, Inc.)
2005		National Science Foundation
2005		US Department of Energy (DoE)
2006		Delft University
2006		National Science Foundation
2007		Foundation of Science and Technology (FCT), Portugal
2007		EnvaPower
2007		Delft University
2008		Environmental Policy Agency (EPA) (via PQA) Panel Chair Evaluating ICF's Integrated planning Model IPM
2008		EdF- Electricite de France
2008		UTRC –United Technologies Research Center
2008		National Science Foundation
2009		EdF—Electricite de France

2012

(to be completed; out of date)
Canada Foundation for Innovation

2. Principal Fields of Interest

Smart Grids as a means of implementing sustainable IT-enabled electricity services; Modeling and control of future electric energy systems (transforming hierarchical into open-access systems); Modeling and control of economic, policy and technical interactions in dynamic systems under uncertainties (applied to electricity markets); Critical infrastructures and their interdependencies (cyber-physical systems); Computer methods and algorithms for simulating large-scale dynamic systems; Electric power systems modeling; Design of monitoring, control and pricing algorithms for electric power systems; Normal and emergency control of electric power systems.

3. Teaching and Education

Semester Offered	Course Title
ST 80 (Washington Univ.)	Numerical Analysis
FT 80 (Washington Univ.)	Probability and Engineering Statistics
ST 81 (Washington Univ.)	Advanced Power Systems Analysis
FT 81 (Drexel Univ.)	Linear Circuit Analysis
ST 82 (Drexel Univ.)	Linear Systems Theory
FT 82 (Cornell Univ.)	Electrical Engineering Laboratory
ST 83 (Cornell Univ.)	Power Systems Analysis I
FT 83 (Cornell Univ.)	Power Systems Analysis II
ST 84 (Cornell Univ.)	Linear Circuits & Systems
FT 84 (Univ of Illinois)	Computer Methods for Electric Networks
ST 85 (Univ of Illinois)	Advanced Modeling & Control of Electrical Machines
FT 85 (Univ of Illinois)	Power Electronics
ST 86 (Univ of Illinois)	Special Topics in Electric Power Systems
FT 86 (Univ of Illinois)	Solid State Control of Electric Drives
ST 86 (Univ of Illinois)	Special Topics in Electric Power Systems
ST 87 (Univ of Illinois)	Computer Methods in Electric Power Systems
FT 87 (M.I.T.)	Circuits and Electronics
ST 88 (M.I.T.)	Circuits and Electronics
FT 88 (M.I.T.)	Circuits and Electronics
ST 89 (M.I.T.)	Circuits and Electronics
ST 89 (M.I.T.)	Operation and Planning of Electric Power Systems
ST 90 (M.I.T.)	Dynamics and Control of Electrical Machines
FT 90 (M.I.T.)	Advanced Electric Power Systems I
ST 90 (M.I.T.)	Advanced Electric Power Systems II
ST 91 (M.I.T.)	Introduction to Electric Power Systems
FT 91 (M.I.T.)	Operation and Planning of Electric Power Systems
ST 92 (M.I.T.)	Dynamics and Control of Electrical Machines
FT 92 (M.I.T.)	Advanced Electric Power Systems I
ST 93 (M.I.T.)	Advanced Power Systems II
FT 93 (M.I.T.)	Operation and Planning of Electric Power Systems

ST 94 (M.I.T.)	Dynamics and Control of Electrical Machines
ST 94 (M.I.T.)	Feedback Systems
FT 94 (M.I.T.)	Advanced Electric Power Systems I
ST 95 (M.I.T.)	Advanced Electric Power Systems II
FT 95 (M.I.T.)	Operation and Planning of Electric Power Systems
ST 96 (M.I.T.)	Hierarchical Control of Power Systems: Its Value Under Changing Industry
FT 96 (M.I.T.)	Advanced Electric Power Systems I
ST 97 (M.I.T.)	Advanced Electric Power Systems II
FT 97 (M.I.T.)	Operation and Planning of Electric Power Systems
ST 98 (M.I.T.)	Circuits and Electronics
FT 99 (M.I.T.)	Advanced Electric Power Systems I:
ST 99 (M.I.T.)	Advanced Electric Power Systems II
FT 99 (M.I.T.)	Operation and Planning of Electric Power Systems
FT 00 (M.I.T.)	Advanced Electric Power Systems I
ST 01 (M.I.T.)	Advanced Electric Power Systems II
FT 01 (M.I.T.)	Operation and Planning of Electric Power Systems (NEW)
ST 02 (M.I.T.)	Large Scale Dynamic Systems Revisited (NEW)
ST 03 (Carnegie Mellon)	Modern Electrical Power Systems (mini)
ST 03 (Carnegie Mellon)	The Changing Electric Power Industry (mini)
FT 03 (Carnegie Mellon)	Special Topics in Systems & Control: Large-Scale Dynamic Systems Revisited
ST 04 (Carnegie Mellon)	Modern Electrical Power Systems (mini)
ST 04 (Carnegie Mellon)	The Changing Electric Power Industry (mini)
ST 04 (Carnegie Mellon)	EPP Projects
ST 04 (Carnegie Mellon)	EPP Project Management
FT 04 (Carnegie Mellon)	Complex Large-Scale Dynamic Systems
ST 05 (Carnegie Mellon)	Special Topics in Multi-Agent Systems & Control: Engineering & Economics of Electric Power Systems (NEW)
FT 05 (Carnegie Mellon)	Electric Energy Processing: Fundamentals and Applications (NEW)
FT 05 (Carnegie Mellon)	Special Topics in Multi-Agent Systems & Control: Electric Power Systems
ST 06 (Carnegie Mellon)	Engineering and Economics of the Changing Electric Power Industry
FT 06 (Carnegie Mellon)	
ST 07 (Carnegie Mellon)	Large-Scale Dynamic Systems; Engineering and Economics
FT 07 (Carnegie Mellon)	Electric Energy Processing: Fundamentals and Applications
ST 08 (Carnegie Mellon)	Engineering and Economics of the Changing Electric Energy Industry (co-listed across ECE,EPP and Tepper; with Lester Lave)
FT 08 (Carnegie Mellon)	Large Scale Dynamic Systems
ST 09 (Carnegie Mellon)	Engineering and Economics of the Changing Electric Energy Industry
ST 09 (Carnegie Mellon)	Smart Grids and Future Electric Energy Systems (NEW)
ST 10 (Carnegie Mellon)	Engineering and Economics of the Changing Electric Energy Industry
ST 10 (Carnegie Mellon)	Smart Grids and Future Electric Energy Systems.
ST 11 (M.I.T sabbatical)	Smart Grids and Future Electric Energy Systems.
FT 11 (Carnegie Mellon)	Large Scale Dynamic Systems
ST 12 (Carnegie Mellon)	Smart Grids and Future Electric Energy Systems
FT 12 (Carnegie Mellon)	Large Scale Dynamic Systems

3.B Student Projects

(a) Undergraduate Projects

- Manghtal, S., "An Investigation of Three Different Ways of Modeling Loads in Load Flow Analysis," June 1990.
- Lee, J.H., "Transmission Line Modeling for Large-Scale Electric Power Systems," February 1994.
- Edoh, H., "Frequency and Power Generation Control in a Decentralized Electric Utility System," February 1995.
- Toh, Eugene, Homeostatic Load Control, May 2006
- Allison, Richard, Solar House, May 2006.
- Kowalski, Michael, Natural Gas Underground Storage Systems, Fall 2008.
- Welesley, Charles, Modeling of Wind Power, Fall 2008.
- McHale, Peter. Independent Study, Fall 2013.

(b) Master's Students

- Schultz, D., "An Estimate of the Q-V Decoupling Error," September 1984 (Cornell University).
- Dobraca, F., "A Novel Approach to the System-Wide Protection of Large Power Systems," September 1986 (University of Illinois).
- Fong, M., "Instantaneous Torque Control of Switched Reluctance Motors Using Floquet Theory," September 1986 (University of Illinois).
- Crow, M.L., "Transient Stability Simulation by Waveform Relaxation Techniques," September 1986 (University of Illinois).
- Shanahan, P., "Approximate Methods for Voltage Monitoring and Control in Electric Power Systems," December 1987 (University of Illinois).
- Rayes, A., "Numerical Issues in Studying a Linear Dynamical Model of a Realistic Power Electronic Circuit," May 1988 (University of Illinois).
- Stobart, W.J., "Using Reactive Power Reserves for Hierarchical Control of Electric Power Systems," June 1990 (Mechanical Engineering Department).
- Kiryaman, T., "Nonlinear Analysis and Control of Switched-Mode DC to DC Converters," February 1991 (Nuclear Engineering Department).
- Millis, K., "Small Signal Stability of Power Converters Connected in Parallel," June 1991.
- Lim, K.K., "Coordination and Control Logic Design for Slow Voltage Control Devices in Electric Power Systems," September 1991 (Mechanical Engineering Department).
- Tolikas, M., "The Application of Homotopy Methods in the Analysis of Electric Power Systems," June 1992.
- Nishimura, F., "Benefit Optimization of Electric Energy Exchange in a Deregulated Multi-Utility Environment," June 1992.
- Jaber, Z. C., "Computer Applications in Power Systems," September 1992 (American University of Beirut, Lebanon, co-supervised with M. Yehia).
- Lacalle-Melero, J. R., "Short Term Stability Analysis of Electrical Energy Markets Under the Real Time Pricing," February 1993.
- Lasota, C., "Reactivity Estimation and Validation for the Control of Reactor Neutronic Power," June 1993 (Nuclear Engineering Department, co-supervised with J. Bernard)
- Chapman, J.W., "Feedback Linearizing Generator Excitation Control for Enhanced Power System Stability," September 1993.
- Allen, E.H., "Effects of Torsional Dynamics on Nonlinear Generator Control," February 1995.

- LaWhite, N., "Vector Calculus of Periodic Non-Sinusoidal Signals for Decomposition of Power Components in Single and Multiphase Circuits," June 1995.
- Zobian, A., "A Framework for Cost-based Pricing of Transmission and Ancillary Services in Competitive Electric Power Markets," June 1996.
- Yu, C. N., "Real Power and Frequency Control of Large Electric Power Systems under Open Access," June 1996 (Mechanical Engineering Department).
- Cordero, R., "Estimation of Transmission Losses in a Changing Electric Power Industry," June 1996.
- Lecinq, B., "Peak-load Pricing for Transmission in a Deregulated Electric Utility Industry," June 1996 (Civil Engineering Department).
- Bambenek, J., "Long term economically efficient transmission systems in a deregulated electric power industry," June 1996 (Nuclear Engineering Department, co-supervised with R. Lester).
- Kuan, J., "Optimal Power Flow with Price-Elastic Demand," September 1996.
- Yoon, T. Y., "Enhancements of Electric Power Systems Operation Using FACTS Devices," February 1997.
- Lerner, P., "On the Value of Transmission Systems under Open Access: Incentives for Investment," June 1997.
- Castillo, J., "How to Make Electric Power Markets Work: The Case of Central America," June 1997.
- Macan, E., "Peak-Load Pricing for the IEEE Reliability Test System," June 1997.
- Ziad, Y. "Deregulation of the Electric Power Industry: The Impact of Transmission on Market Imperfections," February 1998 (Civil Engineering Department).
- Skantze, P., "Closed-loop Market Dynamics in a Deregulated Electric Power Industry," February 1998.
- Shalafi, A., "Available Transmission Capability in Deregulated Electric Power Industry: A Critical Assessment," June 1998.
- Visudhiphan, P., "A Dynamic Model of the Electricity Generation Market," September 1998.
- Leotard, J.P., "Transmission Pricing and Incentives for Investments under Uncertainty in the Deregulated Industry," TPP (Civil Engineering), February 1999.
- Prada, J., "Valuation of Operating Reserve in Power Systems," TPP (EECS), June 1999.
- Chalermkraivuth, Charles, "Distributed Generation: The Strategies and Decision Criteria of Market Participants", TPP (ESD), February 2001.
- Raikar, Santosh, "Interruptible Physical Transmission Contracts for Congestion Management," TPP (ESD) July 2001.
- Tsuchuda, Bruce, " Design of an Information Entity-The InfoCo-for the Electric Power Industry Under Restructuring", TPP (ESD) and EECS, June 2001.
- Collison, Keneth, TPP (ESD), "A Practical Approach to Optimal Pricing and Implementation of Inter-regional Transactions in the Deregulated US Electricity Market", TPP (ESD), June 2001.
- Gozum, Ozge Nadia, "Decision Tools for Transmission Service and Pricing: A Dynamic Programming Approach", EECS, June 2001 (Gullemin Prize Thesis Award for best EECS thesis).
- Wagner, Michael, "Hedging Optimization Algorithms for Deregulated Electricity Markets", EECS June 2001.
- Watz, Jill, " The Role of Government in Facilitating Customer Choice in the Electric Power Industry Under Restructuring", TPP (ESD), February 2002.

Sivakumar, Ashok, "Algorithms for Transmission Congestion Control Under Uncertainties", MIT, EECS, June 2002.

Gatterbauer, Wolfgang, "Interdependence of Electricity Market Characteristics and Bidding Strategies of Power Producers", M.I.T., EECS, May 2002.

Prica, Marija, "Transmission Planning in the Changing Electric Power Industry," co-advised with Prof Popovic, D., University of Novi Sad, June 2006 (in Serbian).

Thatte, Anupam, MS Course Option student, Dec. 2005

Zhang, Yi, "Smart Relays," January 2009.

Liu, Juhua, "Mid-term Instabilities in Electric Power Systems," ECE, CMU, June 2007 (co-advised with Bruce Krogh).

Rotering, Niklas, "Optimal Plug-in Electric Vehicle Charge Control in Deregulated Electricity Markets, March 2009 (joint ETH and CMU thesis).

Cvijic, Sanja, "A Modeling Framework for Capturing Parallel Flows and Effects of Bilateral Contracts in an Evolving Industry", ECE Department, May 2010.

Bachovchin, Kevin, "Magnetic Fields and Forces in an Ambient Temperature Passive Magnetically Levitated Bearing System", ECE Department, December 2011 (co-advised with Jim Hoburg).

(c) Ph.D. Students

Christensen, J., "Secondary Voltage Control Using Partial Information Structures," December 1987 (University of Illinois).

Taylor, David G., "Control of Nonlinear Systems with Application to Electrical Machines and Robotic Manipulators," December 1987 (University of Illinois).

Crow, M.L., "Systems of Differential/Algebraic Equations with Applications to Power System Transient Stability Analysis," September 1989 (University of Illinois).

Fong, M., "Modeling and Control of Slow Voltage Dynamics in Electric Power Systems," September 1989 (University of Illinois).

Doerry, N.H., "Advanced Numerical Methods for Simulating Nonlinear Multirate Lumped Parameter Models," June 1991 (Ocean Engineering Department, co-supervised with J. Kirtley).

Amy, J., "Composite System Stability Methods Applied to Advanced Shipboard Electric Power Systems," June 1992 (Ocean Engineering Department, co-supervised with J. Kirtley).

Liu, X.S., "Structural Modeling And Hierarchical Control of Large-Scale Electric Power Systems," June 1994 (Mechanical Engineering Department).

Eidson, B.D., "Estimation and Hierarchical Control of Market-driven Electric Power Systems," September 1995.

Zobian, A., "A Framework for Pricing Transmission and Ancillary Services in Competitive Electric Power Markets," June 1996.

Chapman, J., "Power System Control for Large-Signal Stability: Security, Robustness and Transient Energy," June 1996.

Cardell, J., "Integrating Small Scale Distributed Generation into a Deregulated Market: Control Strategies and Price Feedback," September 1997 (so-supervised with R. Tabors, best thesis award) (TMP).

Allen, E. H., "Stochastic Unit Commitment for a Deregulated Electric Power Industry," June 1998.

Yu, C.N., "Direct Power Flow Control and Its Pricing in a Deregulated Electric Power Industry," August 1999 (Mechanical Engineering Department).

- Millis, K., "Distributed Measures of Solution Existence and Its Optimality in Stationary Electric Power Systems: Scattering Approach" August 1999.
- Yoon, Y. T., "Electric Power Network Economics: Designing Principles for a For-Profit Independent Transmission Company and Underlying Architectures for Reliability", June 2001, EECS.
- Skantze, P., "A Fundamental Approach to Valuation, Hedging and Speculation in Deregulated Electricity Markets", June 2001, EECS.
- Arce, Rafael Jose, "Transmission Reliability Assessment in a Competitive Electric Energy Industry", Doctor en Ingenieria Electrica, Universidad Nacional de San Juan, Argentina, February 2001 (coadvisor with F.F. Garces)
- Visudhiphan, Poonsaeng, "An Agent-Based Approach to Modeling Electricity Spot Markets", May 2003, EECS.
- Botterud, Audun, "Modeling and Analysis of Investment Dynamics in the Changing Electric Power Industry", NTNU Trondheim (co-advising), 2004.
- Black, Jason, "Technical and Regulatory Methods for Inducing Price Responsiveness in Regulated Electricity Markets," 2005 (ESD/TMP).
- Minoia, Anna, Dipartimento di Elettrotecnica ed Elettronica, Politecnico di Bari, "Reference Transmission Network Concept in an Oligopolistic Electricity Market: a Game Theory Approach," 2005. Co-Advisor: Michele Trovato.
- Elizondo, Marcelo, "Fast Control of Electric Power Systems and Market Design for Their Valuation." (co-advising with Argentina Univ. Prof. Francisco Garces), June 2009.
- Prica, Marija, "An Algorithmic Interactive Planning Framework in Support of Sustainable Technologies," May 2010.
- Zhang, Yi (co-advised with Ozan Tonguz), "Toward Smarter Protection in Power Grids: Applications of Support Vector Machines (SVM) and Communications to Protection Relays," June 2010.
- Xie, Le, "A Framework for Distributed Decision Making in Electric Energy Systems with Intermittent Resources", ECE, December 2009.
- Liao, Huaiwei, "Measuring Cascading Risks in Large Scale Power Grids" (co-advised with Sarosh Talukdar), June 2010.
- Blood, Ellery (co-advised with Bruce Krogh), Enhancing Electric Power System Estimation, May 2011.
- Liu, Juhua (co-advised with Bruce Krogh), Advanced Control of Power Systems, December 2009.
- Houwing, Michiel, "Smart Heat and Power Creating Economic Value with Micro Cogeneration through Intelligence", Carnegie Mellon EPP Visiting Student 2007-2008, Delft University of Technology Ph.D. Candidate, the Netherlands, February 2010.
- Wu, Zhyiong (Richard), "Stratum Electricity Markets: Toward Multi-Temporal Distributed Risk Management for Sustainable Electricity Provision", CMU/EPP, May 2012.
- Masoud H. Nazari, "Making the Most out of Distributed Generation without Endangering Normal Operations: A Model-Based Technical-Policy Approach," (jointly with Joao Pecas Lopes, UFP, Porto), EPP, September 2012.
- Noha-Abdel-Karim, "Multi-Temporal Decomposed Wind and Load Power Models for Electric Energy Systems", September 2012.
- Milos Cvetkovic, "Energy-based Nonlinear Control of FACTS Devices for Transient Stabilization", ECE Department, May 2013.
- Cvijic, Sanja, "Computer Methods for Detecting and Managing Parallel and Loop Flows in Large Electric Power Systems," May 2013.

- Qixing Liu, "A System-theoretic Control Framework for Implementing New Technologies to Enhance Quality and Stability of Large-Scale Power System Dynamics", ECE Department, May 2013.
- Jhi-Young Joo, "Multi-Layered and Multi-Temporal Optimization of the Demand Side in Electric Energy Systems: Adaptive Load Management", ECE Department, May 2013.
- Andrew Hsu, "A Distributed Newton Method For Calculating The Steady State And Equilibria of an Electric Energy Network", ECE Department, May 2013.
- Yang Weng, "AC Electric Power System State Estimation", ECE Department (co-advised with Rohit Negi), August 2013.
- Verzijlbergh, Remco A., "Integration of EVs at Value," TU Delft, TPM, May 2013.
- Jonathan Donadee, "Optimal Use of Energy Storage for Arbitrage and Ancillary Services", ECE Department, May 2015.
- Siripha Junlakarn, "Differentiated Reliability Options Using Distributed Generation and System Reconfiguration", EPP Department, May 2014.
- Chin Yen Tee, "Toward Incentives for Flexible Services in Electric Energy Systems: The Case of FACTS" (tentative title), EPP, May 2015.
- Kevin D. Bachovchin, "Electromechanical Design and Applications in Power Grids of Flywheel Energy Storage Systems" (co-advised with Jim Hoburg), ECE, May 2015.
- Stefanos Baros, "Dynamics and Control of Future Electric Energy Systems" (tentative title; general area), ECE Department, May 2016.
- Jose Fernando Prada, "Toward Efficient Integration of Electricity Markets", EPP Department, May 2016.
- Nipun Popli, "Integration of Diverse Energy Conversion Processes in Load Following Functionalities for Sustainable Services" (tentative title), ECE Department, May 2015.

Doctoral Theses, Committee Member

- Abbasy, Alireza. "National Design and Multinational Integration of Balancing Services Markets." T.U. Delft, 2012.
- Van der Veen, Reinier Anne Christiaan. "Designing Multinational Electricity Balancing Markets." T.U. Delft, 2012.
- Han, Zhi, "Verification of Hybrid Systems Using Decomposition and Model Reduction," CMU/ECE, 2005.
- Patino-Echeverri, Dalia, "Valuing Risk-Reduction: Three Application in the Electricity Industry," January 2006. (EPP)
- Zhang, Haotian, "Field Estimation in Wireless Sensor Networks Using Reduced-Order Physical Models," CMU/ECE, 2006.
- Traft, David, MIT 2004.
- Zeriffi, Hisham, CMU/EPP, 2004.
- Blumsack, Seth, "Network Topologies and Transmission Investments in the Electric Restructured Industry," EPP, 2006.
- Juan Arieta-Camacho, "Nonlinear Programming Sensitivity Based Methods for Constrained State Optimization of Large Scale Chemical Processes Chemical Engineering, CMU, June 2007.
- Pajic, Slobodan, "Power System State estimation and Contingency Constrained Optimal Power Flow—A Numerically Robust Implementation", Ph.D. Thesis Committee, ECE, Worcester Polytechnic Institute, PhD, April 2007.
- Zavala, Victor, "Computational Strategies for the Optimal Operation of Large-scale Chemical Processes", Carnegie Mellon, Chemical Engineering, April 2008

Huang, Rui, "Nonlinear Model Predictive Control and Dynamic Real Time Optimization for Large-scale Processes", Carnegie Mellon University, Chemical Engineering Department, Ph.D., 2011.

Usman Khan, "High Dimensional Consensus in Large-scale Networks: Theory and Applications", CMU, ECE Department, August 2010.

Kar, Soumya, "Large scale Networked Dynamical Systems: Distributed Inference" CMU, (with Jose Moura), June 2010.

Karen de los Angeles Tapia-Ahumada, "Understanding the Impact of Large-Scale Penetration of Micro Combined Heat & Power Technologies Within Energy Systems", MIT ESD PhD Thesis, February 2011.

Li, Qiao, "Scheduling in Cyber-Physical Systems", CMU PhD thesis, ECE Department, 2012.

Alireza Abbasy, "National Design and Multinational Integration of Balancing Services Markets", PhD thesis, TPM Faculty, Delft Univ. of Technology, Netherlands, February 2012.

Reinier van der Veen, "Designing Multinational Electricity Balancing Markets", PhD thesis, TPM Faculty, Delft Univ. of Technology, Netherlands, February 2012.

Sergio Pequito, "A Structural Approach to Large Scale Design, Analysis and Optimization", CMU, ECE Department, and IST, ECE Department, Portugal.

Doctoral Theses, Reader

Brown, R., "Optimal Speed Control of Stepper Motors," December 1986 (University of Illinois).

Behera, A., "New Techniques for Real Time Stability Studies in the Large Scale Power Systems," February 1988 (University of Illinois).

Sanders, S., "Nonlinear Control of Switching Power Converters," February 1989.

Chakravarthy, S., "Chaotic Oscillations in Electrical Power Systems," July 1995 (University of Technology Perth, Western Australia).

Koncar, I., "Generation Dispatch with Independent Transmission Projects," (McGill University), 1998.

Kristiansen, Tarjei, PhD Thesis Committee, "Risk Management in Electricity Markets Emphasizing Congestion" (The Norwegian University of Science and Technology), May 2004.

Prabhu, Nagesh, "Analysis of SubSynchronous Resonance with Voltage Source Converter based FACTS and HVDC," (Indian Institute of Science, Bangalore, INDIA), February 2005.

Xie, Zhijun, "Design of China Electric Power Wholesale Market" (Boston University).

Yang, He, Modeling Electricity Prices for Generation Investment and Scheduling Analysis, Doctor of Philosophy, The University of Hong Kong, February 2010, External Examiner.

Vaitheeswaran, N., Risk-Constrained Stochastic Programming Based Optimization Operation of a Power Producer in India, IIT Delhi, India, June 2010, External Examiner.

3.C Educational Contributions

Developed graduate level curriculum for the electric power systems at M.I.T., EECS Department. Developed three graduate courses in EECS, M.I.T. in the area of electric power systems. One jointly listed with TPP. Significant contributions to these supervision in the area of electric power systems at M.I.T. over 15 years.

Served as an IEEE Distinguished Lecturer.

Taught a new subject under course (18-879) at Carnegie Mellon University, “Special Topics in Systems and Control: Large-Scale Dynamic Systems Revisited. This course became a permanent ECE course, (18-777) in the Fall of 2004.

Co-authored paper entitled, “Introducing Electric Power into a Multidisciplinary Curriculum for Network Industries,” to be published in the IEEE Tran. On Power Systems, Special Issue on Education, May 2004. The relevance of this paper is that it defines a vision for the CMU INI/Master Program in this subject area.

Conference Co-Organizer for:

- First Carnegie Mellon Conference on “Electricity Transmission in Deregulated Markets: Challenges, Opportunities, and Necessary R&D Agenda,” December 15-16, 2004;
- Second Carnegie Mellon Conference in Electric Power Systems: “Monitoring, Sensing, Software and Its Valuation for the Changing Electric Power Industry,” January 11-12, 2006;
- Third Annual Carnegie Mellon Conference on the Electricity Industry: “Ensuring that the Industry Has the Physical and Human Resources Needed for the Next 30 Years,” March 13-14, 2007;
- Fourth Carnegie Mellon Conference in Electric Power Systems: “Future Energy Systems: Efficiency, Security, Control,” March 13-14, 2008; and
- Fifth Carnegie Mellon Conference in Electric Power Systems: “Smart Grids,” March 9-10, 2009 (<http://www.ece.cmu.edu/~electricityconference/>)
- Sixth Carnegie Mellon Conference in Electric Power Systems: 2009 Smart Grid Stimulus Funds-How Can we Get the Most Valuable Information From These Projects?, March 9-10, 2010 <http://www.ece.cmu.edu/~electricityconference/2010/index.html>
- Seventh Carnegie Mellon Conference in Electric Power Systems: “Emerging Phenomena in Changing Electric Energy Systems”, March 8-9, 2011 <http://www.ece.cmu.edu/~electricconf/>
- Eight Carnegie Mellon Conference in Electric Power Systems. “Data-Driven Sustainable Energy Systems”, March 12-14, 2012.

Developed four new ECE courses at Carnegie Mellon University in the area of future electric energy systems. One course co-listed across Engineering and Public Policy (EPP), Tepper School of Business (TSB), and the College of Engineering – Carnegie Institute of Technology (CIT).

Formed Electric Energy Systems Group (EESG) at Carnegie Mellon <http://www.eesg.ece.cmu.edu>.

Led the design of the Interactive Power System Simulator (IPSYS) at Carnegie Mellon. This software has become an integral part of electric power systems education and research, <http://www.ece.cmu.edu/~nsf-education/software.html>.

Short Course on Smart Grids, TU Delft University, November 16-18, 2009 (invited).

Introduced a course on Smart Grid and Future Electric Energy Systems. Course offered several times at Carnegie Mellon University and once at M.I.T. (during sabbatical year)

Proposed an Undergraduate and Graduate ECE Program for Future Electric Energy Systems, 2011. (proposal available at request)

4. Publications

4.A Books

1. Ilic, M.D. and S.X. Liu, *Hierarchical Power Systems Control: Its Value in a Changing Electric Power Industry*, Springer-Verlag London Limited Series, Advances in Industrial Control, 1996.
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6. Professional Activities

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January 1982, "A New Approach to Load Flow Studies," Lehigh University, Bethlehem, PA.

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March 1982, "Potential of Using the S-E Graph for Power Systems Monitoring," Pennsylvania Power and Light Co., Allentown, PA.

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October 1982, "Theoretical Foundations of the Se-E Graph and Its Relations to the I-E Graph," Washington University, St. Louis, MO.

Spring 1983, "S-E Graph Based Adjoint Networks for Power Systems Studies," McMaster University, Hamilton, Canada.

April 1984, "Conditions for the Localized Response in Decoupled Voltage-Var Networks," University of Illinois, Urbana, IL.

May 1984, "Existence and Uniqueness of a Solution to the Reactive Power Problem," McGill University, Montreal, Canada.

Summer 1984, "Floquet Theory Based Control of Switched Reluctance Motors," General Electric, Corporate R&D, Schenectady, NY.

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Spring 1986, "Feedback Linearizing Control for Switched Reluctance Motors," General Electric, Corporate R&D, Schenectady, NY.

Fall 1986, "Automatic Voltage Control and Its Parallelism with the Automatic Generation Control," Leeds and Northrup Co., North Wales, PA.

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October 1998, "Measuring Power System Performance in the New Industry," PostISO Implementation Conference, Sacramento, California.

November 1998, "Electric Power Industry Restructuring: Engineering and Economics," IEEE Distinguished Lecture, Orlando IEEE Chapter.

January 1999, "Critical Factors for Forming a Transmission Company," Alliance Transmission Owners, Washington DC, American Electric Power Headquarters.

January 1999, "Power Markets: Lessons for Internet," Internet Telephony Consortium Workshop, MIT, Cambridge.

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June 1999, "Electric Power Restructuring in the United States," IEEE Distinguished Lecture, French Chapter, Paris, France.

July 1999, "On-line Voltage Regulation in New England," IEEE Panel, Edmonton, Alberta, Canada.

October 1999, "Strategic Directions in R&D to meet Future Demand; Setting R&D Priorities," Ontario Electricity Technology Forum: The New Reality, Toronto, Canada.

December 1999, "On Underlying Principles for Designing Standards in the New Electric Power Industry," NIST (National Institute of Standards Technology) Sponsored Workshop on "Challenges for Measurements and Standards in a Deregulated Electric Power Industry," Arlington, VA.

March 2000, The Role of IT in Competitive Electric Power Systems, MIT, Mechanical Engineering Department Series.

April 2000, "The Role of IT in the Electric Power Industry", Chicago, IL.

August 2000, "Integrating Electricity Markets for Wide Area Open Access ", Workshop on Markets for Electricity, Economics and Technology (MEET): A Flow-based Paradigms for Systems Operation and Market Coordination", Stanford University, Palo Alto, CA.

September 2000, "Incentives for Transmission Investments: A Proposal for a New England Regional Transmission Organization", Orlando, FL, IEEE Distinguished Lecture.

November 2000, A Strategic Systems for Electric Energy Technologies, NSF/DOE/EPRI Sponsored Workshop on Future Research Directions for Complex Interactive Electric Networks, Washington, D.C.

December 2000, "The Role of Information Technology in the Electric Power Industry", PowerCon2000, Perth, Australia (Plenary talk).

April 2001, Electric Power Networks and Data Networks: How Common are the Underlying Problems? EPRI/DOD Meeting, George Washington University, Washington, D.C.

June 2001, Change of Paradigms in Complexity and Interdependencies of Infrastructures, OSTP/NSF Meeting, White House, Washington, D.C.

June 2001, Decision Tools for Electric Transmission Service and Pricing: A Dynamic Programming Approach, EPRI/DOD Interactive Complex Networks Workshop, Washington, D.C.

September 2001, A Possible Transmission Market Design and Performance-Based Tariffs for Prudent Transmission Investments, Electric Power Market Performance Conference, Denver, CO.

September 2001, Valuing Transmission Service: Product Definition, Market Design and Software, Electricity Transmission Meeting, IIR, Arlington, VA.

October 2001, Protocols and Software for the Changing Electric Power Industry: Tradeoffs between T&D and DG, Alstom/MIT Meeting, Cambridge, MA.

November 2001, The Electricity Provision in the Changing Industry, WPI ECE Department Talk Series, Worcester, MA.

November 2001, T&D Technologies—Systems Integration Opportunities and Challenges, Carnegie Mellon Workshop on Electricity Security and Survivability, Pittsburgh, PA.

November 2001, Model-Based Protocols for the Changing Electric Power Industry, EPP Department Talk, Carnegie Mellon University, Pittsburgh, PA.

December 2001, Model-Based Protocols for the Changing Electric Power Industry, MIT LIDS Series Talk, Cambridge, MA.

January 2002, “A Proposal for an Inter-Regional Transmission Organization (IRTO)”, IEEE Panel, New York City, NY.

February 2002, Panel on Electricity Restructuring, AAAS Meeting, Boston, MA.

Reliability in the Changing Industry, APSCOM’03 Tutorial (1 entire day), Hong Kong, November 12, 2003.

Preventing Blackouts in the Changing Electric Power Industry, ECE/CMU seminar

Making Electric Power Systems both secure and Efficient: Protocols for Dynamic Energy Control (PDEC), CMU/EPP Seminar, Feb 3, 2003

A Multi-Layered Approach to Transmission Provision and Pricing in the Electric Power Networks, Institute for Mathematics and Applications (IMA), Univ. of Minnesota, Workshop on Control and Pricing in Communication and Power Networks, March 8-13, 2004 (invited).

Potential Implications of Making the Electric Power Network Secure/Reliable on Energy Use, MIT Energy Industry Symposium, Cambridge, MA, December 3, 03 (invited).

A Systematic IT Architecture for Efficient Electric Power Industry Under Restructuring: The Missing Mechanism, Its Implications and Possible Design, Keynote Presentation APSCOM’03, Hong Kong, November 12, 2003

An Agent-based Approach to Modeling Electricity Spot Markets, IMA Workshop, MN, November 3-6, 2003 (invited-with Dr Poonsaeng Visudhiphan)

Large-Scale Dynamic Network Systems Revisited: The Case of Electric Power Systems, NSF Workshop on Applied Math, Arlington VA, November 2/3, 03 (invited)

Dynamic Transmission Provision and Pricing for Electric Power Systems, EPNES NSF Workshop, Orlando, FL, October 24, 2003.

Institutional and technological architectures for distributed power systems of the future , U.S. Department of Energy, and National Renewable Energy Laboratory, Next Generation Distribution System Visioning Workshop, October 9, 2003 Chicago, IL (invited)

Risk Management, Liquidity and the Value of Information Technology, NORht East Power Conference, Boston, MA, June 25, 2003.

Transformation of Electricity Markets: Value based transmission provision under open access , EPRI Research Advisory Committee (RAC) Meeting, EPP/CMU, April 24, 2003.

Research on Complex Electric Power Networks, GAO presentation, CMU/ECE Meeting, April 12, 2003.

Transmission Reliability Revisited: Provision and Pricing in the Evolving Electric Power Markets, EPRI/EMF Meeting, Palo Alto, CA, Jan 16, 2003.

Ilic, M., Reconciling Hierarchical Control and Open Access in the Changing Electric Power Industry, Proc of the IEEE International Conf on Networking, Sensing and Control, AZ March 2005.

Preventing Future Blackouts by Means of Enhanced Control: From Complexity to Order, PSERC (Tele-Seminar), September 2005

Preventing Future Blackouts by Means of Enhanced Control: From Complexity to Order, University of Liege, Belgium, November 2005

Trading Commodities Delivered via Complex Physical Networks, Energy Forum, London, UK., November 2005

Toward Value-based Energy Provision under Uncertainties, Cambridge Energy Research Associates, December 2005

Marija Ilic, "Investment, Finance, and Safeguarding Public Interests in the Liberalized Electric Sector." Delft University, Netherlands. May 26, 2005.

Marija Ilic, Critically Missing Derivatives in Today's Electricity Markets: A Possible Means of Relating Physical and Financial Signals, European Energy Forum, London, England, November 16, 2005.

Ilic, M., Software Needs and its Valuation in the Electric Power Industry, <http://www.ece.cmu.edu/electricityconference>, Jan. 2006

Ilic, Marija. "Software Needs and its Valuation in the Electric Power Industry." Carnegie Mellon University. Second Carnegie Mellon Conference in Electric Power Systems: Monitoring, Sensing, Software and Its Valuation for the Changing Electric Power Industry, January 11-12, 2006.

Ilic, Marija. "Technology Needs and Valuation in T&D." Invited talk at Florida Central University for Department of Energy (DoE) Panel, February 2006.

Marija Ilic, "Software Needs and Its Valuation in the Electric Power Industry." University of Novi Sad, Serbia. May 2006.

Marija Ilic, "Coherence of Technology and Regulation: The Case of Electricity." University of Paris Workshop on the NGI Project. May 29, 2006.

Ilic, Marija. "Reconciling Hierarchical Control and Open Access in the Changing Electric Power Industry." Large-Scale Dynamical Systems Workshop, Niagara-on-the-Lake, Ontario, June 18-20, 2006.

Ilic, M. "Engineering Electricity Services of the Future: From Hierarchical to Open Access Systems," IBM Talk, Yorktown, NY, October 26, 2006.

Marija Ilic, Short-term and Long-Term Risks in Electricity Markets, Nice, France, November 7, 2006.

Ilic, M. "Engineering Electricity Services of the Future: From Hierarchical to Open Access Systems," MIT Invited Lecture, IAP Courses on Sustainable Energy, Course numbers 1.818J/2.65J/3.564J/10.391J/11.371J/22.811J/ESD166J, Jan 22, 2007.
<http://stellar.mit.edu/S/course/10/ia07/10.391J/index.html>.

Ilic, Marija. "Long-term Problems with, and Solutions for, Future Energy Systems," Northeastern University, Boston, MA, Feb 16, 2007

Ilic, Marija, Unlocking Transmission Grid, Georgia Tech University Workshop, Feb 27, 2007.

Ilic, Marija, Keynote Address at IEEE Systems, Man, and Cybernetics Conference (SMC 2007) Workshop, "eNetworks Cyberengineering: Infrastructures for Cyber-Physical Ecosystems," October 7-10, 2007 in Montreal, Canada. The talk was entitled, "Engineering Future Energy Systems as Cyber-Physical Ecosystems."

Ilic, Marija, Why Details Matter in Future Energy Systems?, 4th CMU Electricity Conference, March 11, 2008.

Ilic, Marija, On Different Architectures for Future Energy Systems, PG&E Industry Meeting, 2008 Protection and Control Industry Workshop, March 13, 2008.

Ilic, Marija, The Role of Network Systems Engineering in Reaching Energy and Environment Dream, JPL, May 12, 2008.

Ilic, Marija, The Role of Network Systems Engineering in Reaching Energy and Environment Dream, Caltech, ACM, Pasadena, CA, May 13, 2008.

Ilic, Marija, Sensor-Based Modeling and Control for Future Electric Energy Systems, Smart Energy Strategies 2008, Zurich, Switzerland, September 9, 2008,
<http://www.esc.ethz.ch/sms08/index>.

Ilic, Marija, New Systems Control Formulations for the Changing Electric Energy Industry, Invited Talk, ETH, Zurich, September 11, 2008.

Ilic, Marija, The Role of Network Systems Engineering in Reaching Energy and Environment Dream, PSERC Talk, October 7, 2008.

Ilic, Marija, Sensor-Based Control for Future Electric Energy Systems, CEIC Talk to the RAC, October 16, 2008.

Ilic, Marija, ECE Graduate Students Seminar Series, Carnegie Mellon University, The Role of Network Systems Engineering in Reaching Energy and Environment Dream, October 16, 2008.

Ilic, Marija, Modeling and Control of Future Electric Energy Systems, Korean Electric Power Co (KEPCO), October 29 2008.

Ilic, Marija, The Role of Network Systems engineering in Reaching Energy and Environment Dream, ECE Seminar Series, Carnegie Mellon University , October 16, 2008.

Ilic, Marija, Research Opportunities and Results in EESG at Carnegie Mellon University, TenneT, December 16, 2008, The Netherlands.

Ilic, Marija, New Systems Control Formulations for the Changing Electric Energy Industry, Delft University, December 17, 2008, The Netherlands.

Ilic, Marija, The Future of Electricity Systems: General Trends and Developments, “Managing the Increasing Dependence of the Electricity Infrastructure on ICT,” Utrecht, The Netherlands, May 13-14 2009.

Ilic, Marija, Vision for Dynamic Monitoring and Decision Systems, 5th CMU Conference on Electric Power Industry, March 9, 2009, <http://www.ece.cmu.edu/~electricityconference/>

Ilic, Marija, Integration, Innovation and Expansion in Future Cyber-Physical Energy Systems, CCC Workshop, George Mason University, <http://cps.isis.vanderbilt.edu/>, May 18, 2009.

Ilic, Marija, The Challenge of Moving Forward, National Workshop on Future R&D Needs in Cyber Physical Energy Systems, <http://www.ece.cmu.edu/~nsf/~cps/>

Ilic, Marija, Integrating Distributed Energy Resources and Demand-Side Management: The Key Role of Dynamic Monitoring and Decision Systems (DYMONDS), Federal Energy Regulatory Commission (FERC), April 20, 2009.

Ilic, Marija, Integration, Innovation and Expansion in Undergraduate Education: Energy Systems, 25th ECE Meeting, New Orleans, March 21, 2009.

Ilic, Marija, New Systems Control Formulations for the Changing Electric Energy Industry, Los Alamos National Laboratory, May 18-22, 2009, http://cnls.lanl.gov/External/workshops_2009.php.

Ilic, Marija, Dynamic Monitoring and Decision Systems (DYMONDS)—Interactive System-Wide Multi-Layered Multi-Directional Means of Integration of Components, NEMA Meeting, Seattle, WA, March 16, 2009.

Ilic, Marija, Integrating Distributed Energy Resources and Demand-Side Management: The Key Role of Dynamic Monitoring and Decision Systems (DYMONDS), i-PCGRID Workshop, Pacific Gas and Electric, San Francisco, CA, March 18, 2009.

Ilic, Marija, “The Role of Dynamic Monitoring and Decision Systems (DYMONDS) in Enabling Adaptive Urban Energy Consumption”, 12th ICTPI, July 12, 2009, Porto, Portugal.

Ilic, Marija, `` Dynamic Monitoring and Decision Systems (DYMONDS) for Smart Grids: The Missing Link'', http://www.ieeeboston.org/edu/2009fall/2009_fall_courses/smarter_elec_grid.html.

Ilic, Marija, `` Dynamic Monitoring and Decision Systems (DYMONDS) and Smart Grids: One and The Same'', EPRI Asset Management Meeting, Dallas, TX, November 4, 2009.

Ilic, Marija, `` Driving Efficiencies and Optimization: Maximizing the Operational Value of Smart Grid'', GridWeek, Washington, DC, September 21, 2009.

Ilic, Marija, `` R&D Needs for Assessing and Managing Effects of Smart Grids on Reliability – Work in Progress'', NERC Smart Grid Task Force (SGTF) Meeting Atlanta, GA Nov 12, 2009.

Ilic, Marija, `` Unbundling and Smart Grids—US Experience'', UNECOM workshop on unbundling of energy companies Joint with Centre for European Policy Studies (CEPS) - Brussels www.unecom.de, November 19 2009.

Ilic, Marija, `` Dynamic Monitoring and Decision Systems (DYMONDS) and Smart Grids: One and The Same'', Washington University, St. Louis MO, November 3, 2009.

Ilic, Marija, `` Engineering Sustainable Electricity Services--The Key Role of Systems Thinking and Automation'', Precourt Institute for Energy, <http://energyseminar.stanford.edu/>, February 3, 2010.

Ilic, Marija, ``Connecting the Dots: Sensing, Communications and Control for Enhanced Performance in Future Electric Energy Systems'', UCLA HSSEAS, February 4, 2009.

Ilic, Marija, `` Smart Regulation for Smart Grids: IT-enabled Rules, Rights and Responsibilities (3Rs) for Efficient Integration of New Energy Resources and Responsive Demand'', CITRIS, University of California Berkeley, February 5, 2009.

Ilic, Marija, The Challenges and Opportunities in Educating Electric Energy Systems, Dowd Fellowship Celebration, CMU October 27, 2010.

Ilic, Marija, On Dynamic Programming (DP) Formulation of Least Cost Planning and an Example, FERC Conference June 9-10, 2010.

Ilic, Marija, A Decision Making Framework and Simulator for Sustainable Electric Energy Systems, April 8, 2010, Boston University.

Ilic, Marija, Integration, Innovation and Expansion in Energy Systems Education, UPM, Madrid, Spain.

Ilic, Marija and Le Xie, Emission-Concerned Economic Dispatch with Intermittent Resources: Dependence on Methods Used, Joint Program Seminar, October 8, 2010.

Ilic, Marija, Dynamic Monitoring and Decision Systems (DYMONDS) and Smart Grids: Key Enablers of Sustainable Energy Services, March 19, 2011, Cognitive Energy Systems Workshop, Hamilton, CA.

Ilic, Marija, Designing Sustainable Electricity Services—Key Role of Cyber-Physical Energy Systems, May 9, 2010, China Smart Grid Workshop, Chinese Academies of Science (organizer).

Ilic, Marija, Working on the Right Problem—Key to Bringing Value to the Sustainable Energy Future, 2nd Int'l Conference on Computational Sustainability, MIT, Cambridge, MA, June 28, 2010.

Ilic, Marija, Designing Sustainable Electricity Services—The Relevance of Systems Thinking and Automation, Cornell University Seminar, April 30, 2010.

Ilic, Marija, From Hierarchical to Open Access Electric Energy Systems: Challenges and Opportunities, Czech Republic Visit Presentation, MIT December 17 2010.

Ilic, Marija, Toward Near Real-Time Fault Simulation, Detection and Testing in Smart Grids, DAC Workshop, Anaheim, CA, June 13, 2010.

Ilic, Marija, Toward Sustainability Models of Electric Energy Systems: The Key Role of ICT Design—Smart Grid, The 13th Economics Conference on Infrastructures Delft, The Netherlands, May 27, 2010.

Ilic, Marija, Discussion of the White Paper "Plug-in Electric Vehicle Infrastructure: A Foundation for Electrified Transportation", MITEI Transportation Electrification Symposium, Cambridge, MA April 8 2010.

Ilic, Marija., Transforming Education in Electric Energy Systems, Electrical and Computer Engineering department Head Association (ECEDHA) Energy Workshop, November 1, 2010.

Ilic, Marija, Designing Sustainable Electricity Services—The Relevance of Systems Thinking and Automation, February 9, 2010, ESD Seminar, MIT.

Ilic, Marija, A Proposal for Long-Term Energy Market Design: Interactive Planning Framework (IPF) in Support of Sustainable Technologies, FERC Conference June 9-10, 2010.

Ilic, Marija, Unit Commitment for Sustainable Integration of Large-Scale Wind Power and Responsive Demand, Technical Conference on Unit Commitment Software Docket AD10-12 FERC, Washington, DC June 2-3, 2010.

Ilic, Marija, Making Transmission Smart: An Opportunity Which Should Not Be Missed, GridWeek 2010.

Ilic, Marija, Managing Reliability Amidst Major Infrastructure Change - What Do Utilities Need from Smart Grids, Hawaii Electric Co (HECO), August 16, 2010.

Ilic, Marija, Dynamic Monitoring and Decision Systems (DYMONDS) for Smart Grids: The Missing Link, January 21, 2010, The IEEE Conference on Smart Grids.

Ilic, Marija, From Hierarchical to Open Access Electric Energy Systems: Challenges and Opportunities, 6th NSF/Northeast Control Workshop Keynote Lecture, John Hopkins University, April 24, 2010.

Ilic, Marija, Engineering Sustainable Electricity Services--The Key Role of Systems Thinking and Automation, April 1, 2010, MIT Energy Club Talk, MIT, Cambridge, MA.

Ilic, Marija, Integration, Innovation and Expansion in Energy Systems Education, Univ of Hawaii, REIS, August 20, 2010 .

Ilic, Marija, Achieving power system efficiency—survivability challenges, Smart Grid Survivability Workshop, Arlington, VA ,October 13-14, 2010.

Ilic, Marija, MIT Power Systems History, ESRG Talk, Dec 8, 2010.

Ilic, Marija, Network Systems Engineering for Meeting Energy and Environmental Dream, Orange Institute, Sensor Networks as the New Growth Opportunity March 22, 2011.

Ilic, Marija, The Key Role of Smart Grid on the Way to Sustainable Solar-Electrical Energy Systems, Workshop on Photovoltaic Power Systems, TU Delft, the Netherlands April 11 2011.

Ilic, Marija, Next Generation Infrastructures: Smart Grids, Opening Lecture, ICNSC'2011-8th IEEE Conference on Networking, Sensing and Control, Delft, The Netherlands April 11-13, 2011.

Ilic, Marija, Greening the Azores Islands: The Key Role of Dynamic Monitoring and Decision Systems (DYMONDS), Green Islands Research Integration Workshop, MIT, Cambridge, May 25-27, 2011.

Ilic, Marija, On Technical and Economic Limits to Integrating Clean Energy Under Current Operating and Planning Industry Practices: The Need for Systematic IT-Enabled Policy Design, ERI e-Workshop ,April 28, 2011, <http://www.src.org/program/eri/>.

Ilic, Marija, Dynamic Monitoring and Decision Systems (DYMONDS): A Possible Mechanism for managing and Valuing Inter-Temporal Constraints under Uncertainties, MIT Electricity Student Research Group, MIT April 13, 2011.

Ilic, Marija, `` Network Systems Engineering for Meeting Energy and Environmental Dream'', Orange Institute, Sensor Networks as the New Growth Opportunity, Madrid, Spain, March 22, 2011.

Ilic, Marija, `` Fundamental Limits to Hierarchical Control in the Changing Industry and Smart Grids-Enabled Management of Emerging Behavior'', 7th CMU Electricity Conference

March 8, 2011, www.ece.cmu.edu/~electricconf/.

Ilic, Marija, ``IT for Smart Grid Management and Distributed Generation'', Executive Master's Program in Sustainable Energy Systems, MIT, Cambridge, MA, March 2011.

Ilic, Marija, What is Smart Grid? The Key Role of Smart Grid on the Way to Sustainable Solar-Electrical Energy Systems, Workshop on Photovoltaic Power Systems, March 28, 2011 Abu Dhabi, UAE.

Ilic, Marija, IT for Smart Grid Management and Distributed Generation, Executive Master's Program in Sustainable Energy Systems, MIT, March 1, 2011.

Ilic, Marija, Engineering IT-Enabled Electricity Services, MITEI Seminar Series February 8, 2011.

Ilic, Marija, Complex Power Grids: From Grid-Centric Reliability To Meeting Grid-enabled Users Needs, CPS Annual Meeting, NSF, <http://cps-vo.org/group/pimtg11>.

Ilic, M., R&D challenges in distribution grids, electric vehicles, energy efficiency and storage, Hidrocantabrico Workshop, Oviedo, Spain, October 2011, www.hcenergia.com.

Ilic, Marija, Dynamic monitoring and Decision Systems (DYMONDS) for Sustainable Socio-Ecological Energy Systems (SEES): The Case of Low Cost Green Azores Islands, IBM, October 2011.

Ilic, Marija, Toward Qualitative and Quantitative Sustainability Models of Electric Energy Systems, SAMSI Workshop, September 19-21, <http://www.samsi.info/workshop/uq-engineering-and-renewable-energy-opening-workshop-september-19-21-2011>.

Ilic, Marija, ``Dynamic Monitoring and Decision Systems: The Missing Piece of the Smart Grid Puzzle'', SAMSI Smart Grid Workshop, October 2 2011.

Ilic, Marija, ``(Incomplete) History of Power Systems Education and Research at MIT'', Invited ESRG Talk, MIT, Cambridge, MA, December 8, 2010.

Ilic, Marija, ``Complex Power Grids: From Grid-Centric Reliability To Meeting Grid-enabled Users Needs'', CPS PI Meeting, August 1-2, 2011, Invited Panel on Energy, Arlington, VA.

Ilic, M., Invited Lectures, The Tenth TCS Excellence in Computer Science Week (TECS Week), Pune, India, January 9-13, 2012, http://www.tcs-trddc.com/tecsweek/tecsweek_home.html.

Ilic, Marija, ``Corrective Resource Management for Voltage Support in Planning and Operation'', FERC Staff Workshop on Voltage Coordination on High Voltage Grids Docket No. AD12-5-000, Washington DC, December 1, 2011.

Ilic, Marija, ``Engineering IT-Enabled Electricity Services'', Southern Cal Workshop, Caltech October 13,2011.

Ilic, Marija, ``Greening the Azores Islands: The Key Role of Dynamic Monitoring and Decision Systems (DYMONDS)'', Green Islands Research Integration Workshop, MIT, Cambridge, May 25-27, 2011.

Ilic, Marija, `` On Technical and Economic Limits to Integrating Clean Energy Under Current Operating and Planning Industry Practices: The Need for Systematic IT-Enabled Policy Design'', ERI e-Workshop, April 28, 2011.

Ilic, Marija, `` The Key Role of Smart Grid on the Way to Sustainable Solar-Electrical Energy Systems'', Workshop on Photovoltaic Power Systems, TU Delft, the Netherlands, April 11 2011.

Ilic, Marija, `` IT-enabled Electricity Services: The Missing Piece of the Environmental Puzzle'', Issues in Technology and Policy, 2011 IAP Seminar Series, MIT, January 19,2011.

Ilic, Marija, `` Dynamic Monitoring and Decision Systems (DYMONDS) for Sustainable Energy Services'', Univ of California, Santa Barbara, Dec. 1, 2010.

Ilic, M., Toward Large-scale Distributed Control for Tomorrow's Electricity Grid, Semi-Plenary Talk (invited), American Control Conference (ACC), 2012, <http://a2c2.org/conferences/acc2012/plenary.php> .

Ilic, Marija, `` Structure-Based Modeling and Control of Future Electric Energy Systems'', 2012 Symposium on Emerging Topics in Control and Modeling UIUC, October 15, 2012 (invited, keynote).

Ilic, Marija, `` Ancillary Services in Systems with High Penetration of DERs'', Super Session, IEEE PES General Meeting, San Diego, July 2012 .

Ilic, Marija, ``Standards for Dynamics in Future Electric Energy Systems'', PSERC White Paper Webinar May 22, 2012.

Ilic, Marija, ``My Work on the Puzzle of Complex Electric Energy Systems'', Women in Engineering Invited Panel, IEEE T&D Conference and Exposition, Orlando, FL, May 8, 2012.

Ilic, Marija, `` Engineering IT-Enabled Sustainable Electricity Services: The Tale of Two Low-Cost Green Azores Islands'', International Workshop on Energy Efficiency for a More Sustainable World, University of Azores, São Miguel Island, Azores, Portugal, 14-16 September 2012. (keynote)

Ilic, Marija, `` Engineering IT-Enabled Electricity Services: The Case of Low-Cost-Green Azores Islands'', Carnegie Mellon University, ECE Graduate Student Seminar February 23, 2012.

Ilic, Marija, `` Methods for Exploring Non-Transmission Solutions to Integrating Renewable Power'', SRC ERI Invited Talk, May 24, 2012.

Ilic, Marija, `` Toward IT-Enabled Power Systems: Large-scale distributed control for tomorrow's electricity grid'', SGE'2012, August 2012 (keynote).

Ilic, Marija, `` A review of today's operating and planning practice and critical need for innovation: The Case of Low-Cost Green Azores Islands '', Guest Lecture in 16.S949 Special Subject: Computational Methods for Sustainability.

Ilic, Marija, `` A Systems Approach to Teaching Electric Energy Systems'', IEEE General Meeting, San Diego, CA, invited session on Collaborative Education, July 25, 2012.

Ilic, Marija, `` Making the Most out of Energy Technologies at Value'', IEEE-USA Energy Policy Committee, November 8, 2012.

Ilic, Marija, `` Toward a New IT Framework and Implementation Platform in Future Electric Energy Systems'', The MIT-□Stanford'' Game Changers'' Conference II July 16-17, 2012, Cambridge, MA.

Ilic, Marija, `` Toward New Operating Framework in Future Electric Energy Systems'', The MIT-□Stanford'' Game Changers'' Conference II, July 16-17, 2012, Cambridge, MA.

Ilic, Marija, `` Toward Assessing Relative Value of Central Generation and DERs'', Federal Energy Regulatory Commission, May 18, 2012.

Ilic, Marija, `` A Method for Assessing Relative Value of Central Generation and Distributed Energy Resources (DERs) in Distribution Feeders'', Staff Technical Conference on Increasing Real-Time and Day-Ahead Market Efficiency through Improved Software (Docket No. AD10-12-003), Washington DC, June 25-27, 2012.

Ilic, Marija, `` Toward IT-enabled Electricity Services: The Tale of Two Low-Cost Green Azores Islands'', Energy Efficiency for a More Sustainable World (EEMSW)'2012 Sao Miguel, 14-16 September 2012, <http://www.energyefficiency.uac.pt>

Ilic, Marija, `` Engineering IT-Enabled Electricity Services: The Case of Low-Cost-Green Azores Islands'', Carnegie Mellon University Dean's Council, November 5, 2012.

Ilic, Marija, `` Software for Future Electric Energy Industry: The Major Challenge and Opportunity'', NRECA Presentation, May 2012.

Ilic, Marija, `` Software for Future Electric Energy Industry: The Major Challenge and Opportunity'', NRC Commissioner Briefing, March 28, 2012.

Ilic, Marija, `` Examples and Counterexamples of What Smart Grids Can and Can Not Do as Enablers of Sustainable Energy Systems'', CNLS Annual Conference on Smart Grid, Santa Fe, NM, April 27, 2012.

6.B Government Committees, Civic Appointments, Board Memberships

IEEE-USA Technical Policy Committee, Member May 2000-present
National Science Foundation, Program Director (50% time) Sept. 1999 March . 2001
National Science Foundation Expert for Power Systems Program 1999
Mass House Committee on Science and Technology Panel on Y2K utility readiness 1999
Organizer, NSF/DOE/EPRI Sponsored Workshop on “Future Research Directions for Complex Interactive Electric Networks, November 16-17, 2000, Washington, D.C.
Co-Initiator, OSTP/NSF Workshop on Long-Term R&D Needs for Critical Infrastructures and their Inter-dependencies, White House, Washington, D.C., June 14-15, 2001.
Organizing Committee NSF Workshop “Responding to the Unexpected”, February 27-March 1, 2002, New York City.
Technical Advisory Committee, California Energy Commission, on Distributed Energy Resources Project, 2003
Co-Organizer, “Beyond SCADA,” HCSS National Workshop(s) on Information Technology, Pittsburgh, March 2006.
Co-Organizer, National Conference on R&D Needs in Future Cyber Physical Energy Systems, June 2009, Baltimore, MD, <http://www.ece.cmu.edu/~nsf/~cps/>
Editor, Special Issue on Future Energy Systems, Proceedings of the IEEE, 2010 (invited).
Carnegie Institute of Technology Faculty Chair for 2006-2007
Participant in NSF Workshop on Monitoring and Controlling the Nation’s Critical Infrastructures, Arlington, VA, November 2006
Carnegie Institute of Technology Faculty Awards Committee, 2006
Chair of the Energy Panel, in charge of reviewing 33 proposals in the energy area for FCT, Portugal (invited), 2006
ECE Graduate Studies Committee (2006-2007)
Carnegie Institute of Technology College Council. (2006-2007)
EPP Department Graduate Committee (2006-2007)
Testify at the Pennsylvania House Republican Policy Committee hearing held at Carnegie Mellon regarding energy issues for development of energy policy (September 5, 2007)
ECE Graduate Studies Committee (2007-2008)
ECE Undergraduate Studies Committee (2008-2009)
Judge posters for IEEE PES GM 08 (Pittsburgh, July 2008)
North American Electric Reliability Council (NERC), Smart Grid Task Force, Leader R&D Group, nominated, 2009.
New York Independent System Operator (NYISO) Reactive Power Working Group (RPWG) Member, 2009.
IEEE Transactions on Smart Grids, Editorial Board, 2009.
PSERC Carnegie Mellon University Executive Committee Representative, 2008-present
<http://www.pserc.wisc.edu/>
Proceedings of the IEEE, Special Issue on Network Systems Engineering for Meeting Energy and Environment Future, vol. 99, no.1, January 2011, Invited Guest Editor.
Journal on Competition and Regulation in Network Industries, Editorial Board, 2008—present.

6.C Membership and Activities in Honorary Fraternities, Professional Societies

Vice Chair, IEEE Central Illinois Section, 1986-1987
Control Systems Society Vice-Chair, Energy Technical Committee, 1986-1988
Chair, Energy Technical Committee, 1988-1991
Circuits and Systems Society
Power Engineering Society
Working Group on Flexible AC Transmission Systems
Systems Control Subcommittee
Working Group on Open Transmission Access
Working Group on Controls in the 21st Century
Invited member of the Energy Modeling Forum WG on "A Competitive Electricity Industry,"
Stanford University.
Associate member of the MIT's CEEPR Center for Energy and Environmental Policy Research.
IEEE Fellow
Member of IEEE PES Working Group on Test Systems for Economic Analysis (2006)

IEEE PES, The Policy Development Task Force (PDTF) is a PES Technical Council Task Force,
July 2011, Secretary.

6.D Editorial Roles on Publications, Major Activities in Professional Meetings

Technical Program Committee, IEEE Conference on Decision Control, 1986.
Associate Editor for Large Scale Systems Networks, IEEE Transactions on Circuits and Systems,
1987-1989.
Technical Program Committee and Vice Chair, 1988.
IEEE American Control Conference, Publications Chair, IEEE Conference on Decision Control,
1988.
Guest Editor, IEEE Control Systems Magazine, Special Issue on Energy Systems, June 1988.
IEEE American Control Conference, Program Chair, 1989.
Associate Editor, International Journal on Electric Power Energy Systems 1989 present.
Program Committee, Workshop on Variable Structure, Control of Power Conversions Systems ,
June 1991.
Co-Chair, IEEE China Power Conference Sept. 1991
Technical Program Committee, 1992
IEEE Conference on Decision and Control on Circuits and Systems
Workshop Organizer, International Symposium May 1992
U.S. Representative, CIGRE (Conference Internationale des Grands Reseaux Electriques a Haute
Tension): 1992 1996
Task Force on Voltage Problems
Guest Editor, Special Issue on FACTS, March 1995.
International Journal on Energy Systems
Associate Editor, IEEE Transactions, Circuits and Systems 1993-1995
Program Committee, IEEE Conference on Control Applications 1995

Program Committee, Power Systems Computer Conference 1996
 Program Committee, IASTED Conference on High Technology in the Power Industry 1997
 Program Committee, International Conference on Power System Automation and Control 1997
 Stanford Energy Modeling Forum Working Group 15 1995 present
 Annual North American Power Symposium, Organizing Committee, 1996.
 Guest Editor, Special Issue on Power Systems, Sept. 1998
 Chairman, IEEE WG on Voltage Control, Guest Editor 1998 present
 Journal on Discrete Event Dynamic Systems November 1999
 IEEE Panel on Value and Cost of Reactive Power Control, Organizer and Chair August 1999
IEEE Distinguished Lecturer for Power Systems 1997—present
 Encyclopedia of Energy, Academic Press, Inc. – Associate Editor, 2002-2003
 Int. Journal of Electrical Power & Energy Systems – Associate Editor, 2003
 IEEE-USA Technical Committee on Energy Policy, 2003
 Electric Utility Deregulation, Restructuring and Power Technologies, Hong Kong, April 5-8, 2004
 – International Advisory Board
 IEEE Proceedings Special Issue Guest Editor 2005
 IEEE Associate Editor for IEEE Transactions on Circuits and Systems, (2006-2007)
 Editorial Board, IEEE Proceedings
 Associate editor, International Journal on Electric Energy Systems
 NSF Planning Meeting on Cyber-Physical Systems Workshop, Oct 16-17, University of Texas,
 Austin, TX (invited)
 Carnegie Mellon Site Director for PSERC, 2007-08
 Carnegie Mellon PSERC Executive Committee – 15 days effort per year, 2007-08
 Associate Editor, IEEE Proceedings of the IEEE –present
 Energy 2030 Symposium, Advisory Committee
 Editorial Board, European Transactions on Electrical Power.
 General Chair, 2011 International Conference on Networking, Sensing and Control, Delft,
 Netherlands, April 2011
<https://webmail.tudelft.nl/exchweb/bin/redirect.asp?URL=http://sinfras.com/conferences/icnsc2011/> .
 Carnegie Mellon University Electricity Conference, Organizer and Co-Founder (with Lester Lave).

6.E Awards, Prizes, Honors

City of Belgrade, Yugoslavia award for special achievements in scholastic work, 1974
 Dr. Dusan Mitrovic Award for best paper in the Automation Group, 1978
 XXI Yugoslavian Conference on Electronics, Telecommunications and Automation
 Dr. V. Bedjanic Award for outstanding results published in the Master of Electrical Engineering
 Degree Thesis, Yugoslavia, 1978

Presidential Young Investigator Award, 1984-1989

Best paper award (Control Area) IEEE Power Electronics Systems Conf., Toulouse, France, 1985
 Xerox Faculty Award, College of Engineering, University of Illinois, 1986
 University Scholar Award, University of Illinois 1987

Best student paper award (advisor/co-author), 34th IEEE Conference on Decision and Control, New Orleans, LA, 1995

Best PhD Thesis Advisor Award, MIT Technology Policy Program 1998

IEEE Distinguished Lecturer for Power Systems 1997—present

IEEE Fellow 1999

Who's Who of American Women, 2004-2005

Delft University, Senior Research Fellow, 2006

Delft University, Visiting Professor, 2007.

Institute Fellow in the NETL Institute for Advanced Energy Solutions (NETL-IAES), 2008

External Advisory Board, ECE Department, Washington University, St. Louis.

Honorary Chair, TU Delft, Netherlands (2008-2013)

Alumni Achievement Award, Washington University, St Louis, 2010.

Phillip L. Dowd Fellowship Teaching Award, CIT Carnegie Mellon University, 2010.

Top 100 Movers and Shakers in Green Tech, 2010.

Steven J. Fenves Award for Systems Research, CIT Carnegie Mellon University, 2012

6.F News Releases (incomplete)

“Engineering and the Electric Power Industry.” *Carnegie Mellon University Engineering*, Fall/Winter 2012. Pittsburgh: Carnegie Institute of Technology, Carnegie Mellon University.

Carnegie Mellon's Marija Ilic Receives Honorary Chair at Prestigious TU Delft University In The Netherlands, Carnegie Mellon University News Media, November 10, 2008.

http://www.ece.cmu.edu/news/story/2008/11/ilic_receives_honorary/

TU Delft, The Netherlands, “Leading electricity network scientist joins TU Delft”, Nov 10, 2008,

<http://www.tudelft.nl/live/pagina.jsp?id=2b56ebcc-3d36-4c0d-911f-0ae2d077f632&lang=en>

TU Delft, The Netherlands, <http://www.delta.tudelft.nl/en/archive/article/news-in-brief/18784>

“Students Energized by Power Engineering,” News Focus,

<http://www.sciencemag.org/content/324/5924/175.full>

“Carnegie Mellon's Marija Ilic Leads Electric Energy Systems Group (EESG) Dedicated To Improving Nation's Aging Power Grid,” News Release May 11, 2009.

http://www.cit.cmu.edu/media/press/2009/03_11_ilic_eesg.html

“Center to be Housed at CMU” <http://www.cmu.edu/homepage/environment/2010/summer/smart-grid-research.shtml>

Smart Grid in Far-Flung Places,

<http://energy.aol.com/2012/04/02/smart-grid-in-far-flung-places/?icid=trending2>