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Education

- **D.Sc. in Systems Science and Mathematics** 1980
Department of Electrical and Systems Engineering, Washington University, St. Louis, MO
- **M.Sc. in Systems Science and Mathematics** 1978
Department of Electrical and Systems Engineering, Washington University, St. Louis, MO
- **MEE in Electrical Engineering** 1977
Department of Electrical Engineering, University of Belgrade, Yugoslavia
- **Dipl. Ing. in Electrical Engineering** 1974
Department of Electrical Engineering, University of Belgrade, Yugoslavia

Research Interests

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.

Work Experience

- **Carnegie Mellon University, Pittsburgh, PA**
Professor Emeritus 8/2017-present
ECE/EPP
- **Massachusetts Institute of Technology, Cambridge, MA**
Visiting Professor 9/2016-present
Institute for Data, Systems, and Society (IDSS)
Research Scientist with PI privilege, Laboratory for Information and Decision Systems (LIDS)
- **Lincoln Labs, Lexington, MA**
Permanent Senior Staff 2/2016-present
- **New Electricity Transmission Software (NETSS), Inc.**
Founder/Owner 2016-present
- **Massachusetts Institute of Technology, Cambridge, MA**
Visiting Scientist 6/2012-5/2013
MIT Energy Initiative (MITEI)

- **Massachusetts Institute of Technology, Cambridge, MA**
Visiting Professor 12/2003-11/2005
Engineering Systems Division
- **Carnegie Mellon University, Pittsburgh, PA**
Professor (tenured) 10/2002-7/2017
ECE/EPP
- **Massachusetts Institute of Technology, Cambridge, MA**
Senior Research Scientist 9/1989-6/2003
- **Massachusetts Institute of Technology, Cambridge, MA**
Visiting Associate Professor 9/1987-09/1989
- **University of Illinois**
Associate Professor (with tenure) 8/1986-08/1989
- **University of Illinois**
Assistant Professor 8/1984-08/1986
- **General Electric Corp.**
Visiting Researcher 6/1984-08/1984
R&D Center
- **Cornell University**
Assistant Professor 1/1982-06/1984
- **Drexel University**
Assistant Professor 8/1981-07/1982
- **Institute for Automation and Telecommunications “Michael Pupin,” Belgrade**
Principal Research Engineer 9/1976-08/1977

Consulting

General Electric R&D Center	9/1985-09/1987
Decision Systems, International Inc. R&D Center	1988-1991
New England Electric Service Co.	9/1989-09/1991
The Analytic Science Co.	9/1989-09/1991
The ENMASS Co.	1990
Power Technologies, Inc.	1/1990-12/1990
Martin Marietta Energy Systems, Inc.	1991
Brattle/IRI, Inc., Senior Advisor	1994-present
The Tabors and Caramanis Associates. Co.	1995
Standard Poor’s (Energy)	1997
Fulcrum International, Inc.	1997
New Electricity Transmission Software Solutions (NETSS), Inc.	2002-present
California Independent System Operator (CA-ISO)	2002
Federal Energy Regulatory Commission (FERC)	2003
Charles River Research, Inc (for First Energy, Inc.)	2004
Foundation of Science and Technology (FCT), Portugal	2007

EnvaPower	2007
EdF-Electricite de France	2008
UTRCC United Technologies Research Center	2008
EdF-Electricite de France	2009
Canada Foundation for Innovation	2012

Awards

City of Belgrade, Yugoslavia award for special achievements in scholastic work, 1974.

Dr. Dusan Mitrovic Award for best paper in the Automation Group, XXI Yugoslavian Conference on Electronics, Telecommunications and Automation, 1978.

Dr. V. Bedjanic Award for outstanding results published in the Master of Electrical Engineering Degree Thesis, Yugoslavia, 1978.

First Presidential Young Investigator Award for Electric Power Systems, National Science Foundation, 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.

Who's Who of American Women, 2004-2005.

Honorary Chaired Professor for Control of Future Electricity Network Operations at Delft University of Technology in Delft, The 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.

Best Paper Award (advisor/co-author) at the IEEE International Conference on Smart Grid Communications, Tainan, Taiwan, 2012.

Best Paper Award (advisor) at the 45th North American Power Symposium (NAPS), Manhattan, KS, 2013.

Ranking First in all Papers (advisor/co-author) at the IEEE International Conference on Smart Grid Communications, Vancouver, Canada, 2013.

IEEE Life Fellow, 2017.

Professional Service:

Government Committees, Civic Appointments, Board Memberships

US Department of Energy, 1996.

National Science Foundation, Expert for Power Systems Program 1999.

State of Massachusetts, Panel on Y2K utility readiness, House Committee on Science and Technology,

1999.

National Science Foundation, Program Director (appointed, 50% time), Sept 1999-March 2001.

OSTP/NSF Workshop on Long-Term R&D Needs for Critical Infrastructures and their Inter-dependencies, White House, Washington, D.C., Co-Initiator, June 14-15, 2001.

NSF/DOE/EPRI Sponsored Workshop on Future Research Directions for Complex Interactive Electric Networks, Washington, D.C., Organizer, November 16-17, 2000.

National Science Foundation, 2002

NSF Workshop Responding to the Unexpected, , New York City, Organizing Committee, February 27-March 1, 2002.

California Energy Commission on Distributed Energy Resources Project, Technical Advisory Committee, 2003.

National Science Foundation, 2003.

Lawrence Livermore National Laboratory, 2003.

US Department of Energy, 2005.

National Science Foundation, 2005.

National Science Foundation, 2006.

NSF Planning Meeting on Cyber-Physical Systems Workshop, Oct 16-17, University of Texas, Austin, TX (invited), 2006.

NSF Workshop on Monitoring and Controlling the Nation's Critical Infrastructures, Arlington, VA, Participant, November 2006.

Washington University, ECE Department, St. Louis, MO, External Advisory Board, 2007-present.

Pennsylvania House Republican Policy Committee, Hearing held at Carnegie Mellon regarding energy issues for development of energy policy, Delivered Testimony, September 5, 2007.

Environmental Policy Agency (EPA) (via PQA) , Panel Chair, 2008.

National Science Foundation, 2008.

New York Independent System Operator (NYISO) Reactive Power Working Group (RPWG) Member, 2009.

North American Electric Reliability Council (NERC), Smart Grid Task Force, R&D Group Leader (nominated), 2009.

Professional Service (continued):

Membership and Activities in Professional Societies

IEEE Conference on Decision Control, Technical Program Committee, 1986.

Control Systems Society, Energy Technical Committee, Vice-Chair, 1986-1988.

IEEE Central Illinois Section, Vice Chair, 1986-1987.

IEEE Transactions on Circuits and Systems, Associate Editor for Large Scale Systems Networks, 1987-1989.

American Control Conference, Technical Program Committee and Vice Chair, 1988.

Energy Technical Committee, Chair, 1988-1991.

IEEE Conference on Decision Control, Publications Chair, 1988.

IEEE Control Systems Magazine, Special Issue on Energy Systems, Guest Editor, June 1988.

American Control Conference, Program Chair, 1989.

International Journal on Electric Power Energy Systems, Associate Editor, 1989–present.

Control of Power Conversions Systems, Workshop on Variable Structure, Program Committee, June 1991.

IEEE China Power Conference, Co-Chair, Sept. 1991.

IEEE Conference on Decision and Control, Technical Program Committee, 1992.

CIGRE (Conference Internationale des Grands Reseaux Electriques a Haute Tension), Task Force on Voltage Problems, U.S. Representative, 1992–1996.

International Symposium on Circuits and Systems, Workshop Organizer, May 1992.

IEEE Transactions, Circuits and Systems, Associate Editor, 1993-1995.

IEEE Conference on Control Applications, Program Committee, 1995.

Stanford University, Energy Modeling Forum Working Group 15, Member, 1995–2005.

Special Issue on Flexible AC Transmission Systems (FACTS), Guest Editor, March 1995.

Power Systems Computer Conference (PSCC), Program Committee, 1996.

Annual North American Power Symposium, Organizing Committee, 1996.

IEEE Power Systems, Distinguished Lecturer, 1997–2005.

International Conference on Power System Automation and Control, Program Committee, 1997.

IASTED Conference on High Technology in the Power Industry, Program Committee, 1997.

IEEE Working Group on Voltage Control, Guest Editor, Chairman, 1998–2002.

IEEE Panel on Value and Cost of Reactive Power Control, Organizer and Chair, August 1999.

Journal on Discrete Event Dynamic Systems, Special Issue on Power Systems, November 1999.

IEEE-USA Technical Committee on Energy Policy, Member, May 2000-present.

Academic Press, Inc., Encyclopedia of Energy, Associate Editor, 2002-2003.

International Journal of Electrical Power & Energy Systems, Associate Editor, 2003–present.

International Advisory Board, Electric Utility Deregulation, Restructuring and Power Technologies, Hong Kong, April 5-8, 2004.

Proceedings of the IEEE, “Power Technology and Policy—Forty Years After the 1965 Blackout.?” Special Issue, Invited Guest Editor, November 2005.

IEEE Transactions on Circuits and Systems, Associate Editor, 2006-2007.

Energy Panel, Chair, in charge of reviewing 33 proposals in the energy area for FCT, Portugal (invited), 2006.

HCSS National Workshop on Information Technology, “Beyond SCADA,” Co-Organizer, Pittsburgh, March 2006.

Proceedings of the IEEE, Associate Editor, 2007–2010.

PSERC Carnegie Mellon University, Executive Committee, Representative, 2007.

IEEE Transactions on Smart Grids, Editorial Board, 2009–present.

National Conference on R&D Needs in Future Cyber Physical Energy Systems, Baltimore, MD, Co-Organizer, June 2009.

Proceedings of the IEEE, Special Issue on Future Energy Systems, Editor (invited), 2010.

Proceedings of the IEEE, Special Issue on Network Systems Engineering for Meeting Energy and Environment Future, vol. 99, no.1, Invited Guest Editor, January 2011.

TU Delft, International Conference on Networking, Sensing and Control, Delft, Netherlands, General Chair, April 2011.

NOW publishers, Foundations and Trends in Systems Electric Energy, Editor-in-Chief, 2012–present.

IEEE SmartGridComm Symposium, Vancouver, Canada, TPC Co-chairs, October 2013.

Other Major Contributions

- Carnegie Mellon University Electricity Conference, Organizer and Co-Founder (with Lester Lave), 2004–2014.
- Electric Energy Systems Group (EESG), Formed at Carnegie Mellon, 2006–present.
<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, 2007.
<http://www.ece.cmu.edu/~nsf-education/software.html>.
- Carnegie Mellon University Annual Electricity Conferences, Organizer, 2011–2015.
<http://www.ece.cmu.edu/electricityconference>.
- “Smart Grid in a Room” Simulator (SGRS). This is becoming an open-access, end-to-end, software for demonstrating impact of new technologies and electricity markets on electric power system dynamics. It is a result of an ongoing collaboration with the U.S. National Institute of Standards (NIST) on electric power, demonstrating impact of new technologies and electricity markets on electric power system dynamics.
- Leading software development for Simulator of Future Aircraft Systems by the NETSS team. NASA funded SBIR, Phase II, 2016–2018.
- Scalable Electric Power System Simulator (SEPSS), currently leading development of this at MIT/MIT LL; outgrowth of SGRS, 2016–present.
- Led development and testing of AC Extended Optimal Power Flow (ACXOPF) by the New Electricity Transmission Software (NETSS), Inc. [I am founder/owner of NETSS.], 2016–present.

Patents

- J.W. Chapman, M.D. Ilić, “Decentralized Excitation Control for an Electrical Power Utility System”, US Patent No. 5483147, Jan. 1996.
- M.D. Ilić and X.Z. Liu, “Method and Apparatus for Direct Control of Inter-area Dynamics in Large Electric Power Systems”, US Patent No. 5517422, May 1996.
- M.D. Ilić and A. Hsu, “A General Method for Distributed Line Flow computing with Local Communication in Meshed Electric Networks: applications to Distributed Line Power Flow Calculations with Minimal Communications,” US Patent No. 2013/0024168 A1, Jan. 2013.
- S. K. Aivaliotis, Z. R. Stelmak, R. D. Mohr, M.D. Ilić, J. H. Lang, B. Fardanesh, M. R. Graham, L. Menemenlis-Hopkins, J. Mayadas-Dering, G. K. Stefopoulos, “System and method for power grid management,” US Patent No. 8738191 B2, May 2014.
- M.D. Ilić and S. Cvijic, “Contingency Screening in Multi-Control Area Electrical Power Systems Using Coordinated DC Power Flow”, US Patent No. 9 625 887, 2017.
- M.D. Ilić, Miao, X. and Jaddivada, R., “Plug-and-Play Reconfigurable Electric Power Microgrids”, Patent Appl. No. 15/965,823.

Books

- [1.1] M.D. Ilić. Reactive power: Fundamentals, problems and solutions. In G. Sheble, editor, *IEEE Special Publications*, pages 1–78. IEEE, San Francisco, CA (2nd edition New York, NY, 1988), 1987.
- [1.2] M.D. Ilić. Modern approaches to modeling and control of electric power systems. In *Control and Dynamic Systems, Vol. 41*, pages 1–78. Academic Press Inc., 1991.
- [1.3] M.D. Ilić and S.X. Liu. *Hierarchical Power Systems Control: Its Value in a Changing Electric Power Industry*. Series on Advances in Industrial Control. 1996.
- [1.4] M.D. Ilić, L. Hyman, E. Allen, R. Cordero, and C.N. Yu. Interconnected system operations and expansion in a changing industry: Coordination vs. competition. In S. Awerbuch and A. Preston, editors, *The Virtual Utility: Accounting, Technology & Competitive Aspects of the Emerging Industry*, pages 307–332. Topics in Regulatory Economics and Policy Series, Kluwer Academic Publishers, 1997.
- [1.5] M.D. Ilić, F.D. Galiana, and L. Fink, editors. *Electric Power Systems Restructuring: Engineering and Economics*. 1998. 2 editions.
- [1.6] Z. Younes and M.D. Ilić. Transmission networks and market power. In *Electric Power Systems Restructuring: Engineering and Economics*, pages 337–386. Kluwer Academic Publishers, 1998.
- [1.7] F.D. Galiana and M.D. Ilić. Power systems operation: Old vs. new. In *Electric Power Systems Restructuring: Engineering and Economics*, pages 15–107. Kluwer Academic Publishers, 1998.
- [1.8] F.D. Galiana and M.D. Ilić. Framework and methods for the analysis of bilateral transactions. In *Electric Power Systems Restructuring: Engineering and Economics*, pages 108–128. Kluwer Academic Publishers, 1998.
- [1.9] R. Coxe and M.D. Ilić. System planning under competition. In *Electric Power Systems Restructuring: Engineering and Economics*, pages 285–335. Kluwer Academic Publishers, 1998.
- [1.10] J. Cardell and M.D. Ilić. The control and operation of distributed generation in a competitive electric market. In *Electric Power Systems Restructuring: Engineering and Economics*, pages 453–518. Kluwer Academic Publishers, 1998.
- [1.11] E.H. Allen and M.D. Ilić. *Price-Based Commitment Decisions in the Electricity Market*. Series on Advances in Industrial Control. November 1998.
- [1.12] L. Fink and M.D. Ilić. Engineering requirements for transmission system control with decentralized generation control. In S. Awerbuch, L.S. Hyman, and A. Vessey, editors, *Unlocking the Benefits of Restructuring: A Blueprint for Transmission*. Public Utilities Reports, Inc. Vienna, VA, Nov 1999.
- [1.13] M.D. Ilić. Power-system control. In *Handbook for Power System Calculations*, chapter 12. Mc-Graw Hill, 2000.
- [1.14] Y. Yoon and M.D. Ilić. Transmission expansion in the new environment. In L. Lai, editor, *Power System Restructuring and Deregulation: Trading, Performance and Information Technology*, chapter 5, pages 267–287. John Wiley & Sons, 2000.
- [1.15] M.D. Ilić and J. Zaborszky. *Dynamics and Control of Large Electric Power Systems*. May 2000. (900 pages).
- [1.16] P. Skantze and M.D. Ilić. *Valuation Hedging and Speculation in Competitive Electricity Markets: A Fundamental Approach*. 2001.
- [1.17] Y.T. Yoon and M.D. Ilić. Transmission expansion in the new environment. In L.L. Lai, editor, *Power System Restructuring and Deregulation: Trading, Performance and Information Technology*, pages 134–167. John Wiley & Sons, Ltd., 2001.

- [1.18] M.D. Ilić. Automating operation of large electric power systems over broad ranges of supply/demand and equipment status. In J. Chow, F.F. Wu, and J. Momoh, editors, *Applied Mathematics for Restructured Electric Power Systems*, chapter 6, pages 105–137. Kluwer Academic Publishers, 2004.
- [1.19] M.D. Ilić and J. Zaborszky. Electric power systems engineering. In C.J. Cleveland, editor, *Encyclopedia of Energy, Vol. 2*, pages 267–287. Elsevier Academic Press, Boston, 2004.
- [1.20] C.J. (Editor-in-Chief) Cleveland and M.D. (one of the Editors) Ilić, editors. *Encyclopedia in Energy*. April 2004.
- [1.21] Z. Lukszo, M.P.C. Weijnen, R.R. Negenborn, B. De Schutter, and M.D. Ilić. Challenges for process system engineering in infrastructure operation and control. In W. Marquardt and C. Pantelides, editors, *9th International Symposium on Process Systems Engineering; 16th European Symposium on Computer Aided Process Engineering*, pages 95–100. Elsevier B.V., 2006.
- [1.22] M.D. Ilić and M. Jelinek. Changing paradigms in electric energy systems. In R.W. Kunneke, J. Groenewegen, and J-F. Auger, editors, *The Governance of Network Industries: Institutions, Technology and Policy in Regulated Infrastructures, Studies in Evolutionary Political Economy*, pages 134–167. MPG Books Group, UK, 2009.
- [1.23] L. Xie and M.D. Ilić. Module-based interactive protocol for integrating wind energy resources with guaranteed stability. In R.R. Negenborn, Z. Lukszo, and J. Hellendoorn, editors, *Intelligent Infrastructures*. Springer, Berlin, Germany, 2009.
- [1.24] M.D. Ilić. The future of electricity systems: General trends, developments, in securing electricity supply in the cyber age: Exploring the risk of information and communication technology. In C.T. Leondes, editor, *Tomorrow's Electricity Infrastructure*, volume 41, pages 13–32. Springer Topics in Safety, Risk, Reliability and Quality, 2010.
- [1.25] M.D. Ilić. Modern approaches to modeling and control of electric power systems. In C.T. Leondes, editor, *Control and Dynamic Systems: Advances in Theory and Applications*, volume 41, pages 1–78. 2011.
- [1.26] M.D. Ilić and Q. Liu. Toward sensing, communications and control architectures for frequency regulation in systems with highly variable resources. In *Control and Optimization Theory for Electric Smart Grids*, chapter 1. 2011.
- [1.27] M.D. Ilić and A. Chakraborty, editors. *Control and Optimization Methods for Electric Smart Grids*. 2012.
- [1.28] S. Cvijic, M.D. Ilić, and Q. Liu. Distributed multiparty DC power flow algorithm with secure exchange of information. In *Control of Cyber-Physical Systems*, Lecture Notes on Control and Information Sciences. Springer, 2013**.
- [1.29] M.D. Ilić and Q. Le, X. Liu, editors. *Engineering IT-Enabled Sustainable Electricity Services: The Tale of Two Low-Cost Green Azores Islands*. Springer, August 2013.
- [1.30] C.Y. Tee and M.D. Ilić. Toward valuing flexibility in transmission planning. In Hong Chen, editor, *Power Grid Operation in a Market Environment: Economic Efficiency and Risk Mitigation*, pages 219–250. IEEE Press, Wiley, 2017.
- [1.31] S. Junlakarn and M.D. Ilić. *Toward Reconfigurable Smart Distribution Systems for Differentiated Reliability of Service*, chapter 18. In Ilić et al. [29], August 2013.
- [1.32] Jhi-Young Joo, Jonathan Donadee, and Marija Ilić. *Assessing the Ability of Different Types of Loads to Participate in Adaptive Load Management*. In Ilić et al. [29], August 2013.
- [1.33] Jhi-Young Joo, Yingzhong Gu, Le Xie, Jonathan Donadee, and Marija Ilić. *Look-ahead Model-Predictive Coordinated Generation and Demand Dispatch Methods for Managing Uncertainties*. In Ilić et al. [29], August 2013.

- [1.34] Jonathan Donadee, Jhi-Young Joo, Remco Verzijlbergh, and Marija Ilić. *Generation and Demand Characteristics of the Islands of Flores and So Miguel*. In Ilić et al. [29], August 2013.
- [1.35] K. D. Bachovchin, M. Cvetkovic, and M. D. Ilić. *Transient Stabilization in Systems with Wind Power*, chapter 19. In Ilić et al. [29], August 2013.
- [1.36] Botterud A., N. Abdel-Karim, and M. D. Ilić. *Generation Planning under Uncertainty with Variable Resources*, pages 535–552. In Ilić et al. [29], August 2013.
- [1.37] A. Chakraborty and M.D. Ilić, editors. *Control and Optimization Methods for Electric Smart Grids*. 2015. Chinese Simplified.
- [1.38] M.D. Ilić. *Toward a Unified Modeling and Control for Sustainable and Resilient Electric Energy Systems*. Foundations and Trends in Electric Energy Systems: Vol. 1: No. 1-2. Now Publishers, 2017. <http://dx.doi.org/10.1561/3100000002>.
- [1.39] M.D. Ilić, R. Jaddivada, X. Miao, and N. Popli. Toward multi-layered MPC for complex electric energy systems. In S.V. Rakovic and W. Levine, editors, *Handbook of Model Predictive Control*. Birkhauser, 2018**.

Papers in Refereed Journals

- [2.1] M.D. Ilić and M. Calovic. Multicriteria approach to optimal operation of power systems. *Electric Power Systems Research*, 2:145–153, 1979.
- [2.2] M. Ilić. Multicriteria approach to optimal operation of power systems. *Automatica*, May 1977. (Yugoslavian journal).
- [2.3] M. Ilić-Spong and J. Zaborszky. A different approach to load flow. *IEEE Transactions on Power Apparatus and Systems*, PAS-101(1):168–179, Jan 1982.
- [2.4] J. Zaborszky, M. Ilić-Spong, and K.W. Whang. Homogeneous, nonlinear load-flow algorithms for HV-AC and compound HV-AC-DC systems. *International Journal on Electrical Power and Energy Systems*, 4, October 1982. 233-244.
- [2.5] M. Ilić-Spong, N. Katz, and J. Zaborszky. Block diagonal dominance for systems of nonlinear equations with application to load flow calculations in power systems. *International Journal on Mathematical Modeling*, 5:275–297, December 1984.
- [2.6] M. Ilić-Spong, M. Spong, and R. Fischl. The no-gain theorem and localized response for the decoupled $P - \theta$ power network with active power losses included. *IEEE Transactions on Circuits and Systems*, 32(2):170–177, Feb 1985.
- [2.7] J.S. Thorp, M. Ilić-Spong, and M. Varghese. An optimal secondary Voltage-Var control technique. *IFAC Automatica*, 22:217–221, 1986.
- [2.8] M. Ilić-Spong, J. Thorp, and M. Spong. Localized response performance of the decoupled Q-V network. *IEEE Transactions on Circuits and Systems*, 33(3):316–322, Mar 1986.
- [2.9] J. Thorp, M. Ilić-Spong, and D. Schulz. Reactive power–voltage problem: Conditions for the existence of solution and localized disturbance propagation. *International Journal on Electrical Power and Energy Systems*, 8:66–74, April 1986.
- [2.10] M. Ilić-Spong and A. Phadke. Redistribution of reactive power flow in contingency studies. *IEEE Transactions on Power Systems*, 1(3):266–274, Aug 1986.
- [2.11] M. Ilić-Spong, T. J. E. Miller, S. R. Macminn, and J. S. Thorp. Instantaneous torque control of electric motor drives. *IEEE Transactions on Power Electronics*, PE-2(1):55–61, Jan 1987.

- [2.12] J. Zaborszky, M. Ilić-Spong, G. Huang, and F. Dobraca. Computer control of the large power system during faults for inherently adaptive selective protection. *IEEE Transactions on Power Systems*, 2(2):494–504, May 1987. **.
- [2.13] M. Ilić-Spong, R. Marino, S. Peresada, and D. Taylor. Feedback linearizing control of switched reluctance motors. *IEEE Transactions on Automatic Control*, 32(5):371–379, May 1987. **.
- [2.14] M.D. Ilić and J. Zaborszky. Fundamentals of reactive power modeling and control. *IEEE Transactions on Power Systems special publication*, pages 61–114, July 1987. 87EH0262-6-PWR.
- [2.15] J. Medanic, M. Ilić-Spong, and J. Christensen. Discrete models of slow voltage dynamics for under load tap-changing transformer coordination. *IEEE Transactions on Power Systems*, 2(4):873–880, Nov 1987. **.
- [2.16] M. Ilić-Spong, M. L. Crow, and M. A. Pai. Transient stability simulation by waveform relaxation methods. *IEEE Transactions on Power Systems*, 2(4):943–949, Nov 1987. **.
- [2.17] M. Ilić-Spong, M. L. Crow, and M. A. Pai. Transient stability simulation by waveform relaxation methods. *IEEE Power Engineering Review*, PER-7(11):37–38, Nov 1987. **.
- [2.18] M. Ilić-Spong, J. Christensen, and K. L. Eichorn. Secondary voltage control using pilot point information. *IEEE Transactions on Power Systems*, 3(2):660–668, May 1988. **.
- [2.19] H. J. Sira-Ramirez and M. Ilić. A geometric approach to the feedback control of switch mode DC-to-DC power supplies. *IEEE Transactions on Circuits and Systems*, 35(10):1291–1298, Oct 1988. **.
- [2.20] H. Sira-Ramirez and M. Ilić. Exact linearization in switched-mode DC to DC power converters. *International Journal of Control*, 50:511–524, Aug 1989. **.
- [2.21] M. L. Crow and M. Ilić. The parallel implementation of the waveform relaxation method for transient stability simulations. *IEEE Transactions on Power Systems*, 5(3):922–932, Aug 1990. **.
- [2.22] M. Ilić and W. Stobart. Development of a smart algorithm for voltage monitoring and control [of power systems]. *IEEE Transactions on Power Systems*, 5(4):1183–1193, Nov 1990. **.
- [2.23] M. Ilić and A. Stankovic. Voltage problems on transmission networks subject to unusual power flow patterns. *IEEE Transactions on Power Systems*, 6(1):339–348, Feb 1991. **.
- [2.24] A. Stankovic, M. Ilić, and D. Maratukulam. Recent results in secondary voltage control of power systems. *IEEE Transactions on Power Systems*, 6(1):94–101, Feb 1991. **.
- [2.25] C. A. King, J. W. Chapman, and M. D. Ilić. Feedback linearizing excitation control on a full-scale power system model. *IEEE Transactions on Power Systems*, 9(2):1102–1109, May 1994. **.
- [2.26] D.J. Tylavsky and Co-Chairman A. Bose. Parallel processing in power systems computation. *IEEE Transactions on Power Systems*, 7(2):629–638, May 1992. M.D. Ilić, co-contributor.
- [2.27] R. Chedid, N. LaWhite, and M.D. Ilić. A comparative analysis of dynamic models for performance calculation of grid-connected wind turbine generators. *Wind Engineering*, 17:168–182, 1993. **.
- [2.28] M. D. Ilić, J. R. Lacalle-Melero, F. Nishimura, W. Schenler, D. Shirmohammadi, A. Crough, and A. Catelli. Short-term economic energy management in a competitive utility environment. *IEEE Transactions on Power Systems*, 8(1):198–206, Feb 1993. **.
- [2.29] F.K. Mak and M.D. Ilić. Classification of voltage problems in electric power systems. *International Journal on Electrical Power and Energy Systems*, 15:377–385, April 1993. **.
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Invited Lectures

1. May 1981, "Complex Power-Complex Voltage for Electric Power Networks," Drexel University, Philadelphia, PA.
2. January 1982, "A New Approach to Load Flow Studies," Lehigh University, Bethlehem, PA.
3. March 1982, "Potential of Using the S-E Graph for Power Systems Monitoring," Pennsylvania Power and Light Co., Allentown, PA.
4. April 1982, "Recursive Formulae for Load Flow Computations," Cornell University, Ithaca, NY.
5. April 1982, "Theorems for Steady State Electric Power Networks," Cornell University, Ithaca, NY.
6. October 1982, "Theoretical Foundations of the Se-E Graph and Its Relations to the I-E Graph," Washington University, St. Louis, MO.
7. Spring 1983, "S-E Graph Based Adjoint Networks for Power Systems Studies," McMaster University, Hamilton, Canada.
8. April 1984, "Conditions for the Localized Response in Decoupled Voltage-Var Networks," University of Illinois, Urbana, IL.
9. May 1984, "Existence and Uniqueness of a Solution to the Reactive Power Problem," McGill University, Montreal, Canada.
10. Summer 1984, "Data Management for Reactive Power/Voltage Control," Central Illinois Light Co., Peoria, IL.
11. Summer 1984, "Floquet Theory Based Control of Switched Reluctance Motors," General Electric, Corporate R&D, Schenectady, NY.
12. Spring 1986, "Feedback Linearizing Control for Switched Reluctance Motors," General Electric, Corporate R&D, Schenectady, NY.
13. Fall 1986, "Automatic Voltage Control and Its Parallelism with the Automatic Generation Control," Leeds and Northrup Co., North Wales, PA.
14. Fall 1986, "Real Time Reactive Power Control," Pennsylvania-Jersey-Maryland Interconnection, Philadelphia, PA.
15. Spring 1987, "Reactive Power/Voltage Modeling and Control," MIT, Cambridge, MA.
16. May 1987, "Where Does the Power Industry Go From Here?" Power Industry Computation Conference, Montreal, Canada.
17. Summer 1987, "Reactive Power/Voltage Modeling and Control," University of California, Berkeley, CA.
18. July 1987, "Reactive Power: Basics, Problems and Solutions," IEEE Power Engineering Society, San Francisco, CA.
19. Fall 1987, "Numerical Algorithms for Large Scale Electric Power Systems," MIT, Cambridge, MA.
20. January 1988, "Open Control Theoretical Issues in the Large Scale Electric Power Systems," Rensselaer Polytechnic Institute, Troy, NY.
21. February 1988, "Reactive Power: Basics, Problems and Solutions," IEEE Power Engineering Society, New York, NY.

22. April 1988, "Numerical Algorithms for Simulating Very Large Dynamical Systems," Rensselaer Polytechnic Institute, Troy, NY.
23. May 1988, "Open Research Questions in Voltage Control Design," Grainger Lecture Series, Urbana, IL.
24. June 1988, "Coordinated Voltage Control on Large Interconnected Systems," Vattenfall, Stockholm, Sweden.
25. June 1988, "Pilot Point Based Voltage Control-Comparison of the Current Practice on the French System and the EPRI Supported Research in the U.S. for Automating Secondary Voltage Control," Electricite de France, Paris, France.
26. September 1988, "New Algorithms for Voltage Monitoring and Control," Power Technologies, Inc., Schenectady, NY.
27. November 1988, "Electric Power Systems Control and Operation: Present Practice and Future Directions," MIT, Cambridge, MA.
28. November 1988, "Review of the Available Monitoring and Control Tools for Voltage Problems," New England Electric System, Westboro, MA.
29. January 1989, "Were There Any Hidden Energy Reserves in Massachusetts Last Summer?" MIT, Cambridge, MA.
30. April 1989, "Monitoring and Control in Electric Power Systems," Water and Electricity Department, Abu Dhabi, United Arab Emirates.
31. April 1989, "Review of the Development on Voltage Monitoring and Control," New England Electric System, Westboro, MA.
32. September 1989, "New Approaches to Voltage/Reactive Power Control in Electric Power Systems," University of Tennessee, Knoxville, TN.
33. September 1989, "Operational Issues in Power Systems in 2000 and Beyond," NSF Workshop, Atlanta, GA.
34. October 1989, "Research Needs in Power Systems Dynamics and Control: Academic Perspective," MIT Workshop on Research Needs in Electric Power Systems, Cambridge, MA.
35. October 1989, "Voltage Problems: The New Operating Mode in Power Systems," MIT Workshop on Research Needs in Electric Power Systems, Cambridge, MA.
36. December 1989, "Advanced Controls in Electric Power Systems," New York Power Pool, Albany, NY.
37. December 1989, "New Controls for Electric Power Systems," General Electric Industry and Utility Sales, Schenectady, NY.
38. January 1990, "Potential Scenarios for Supercomputer Applications in Operating Electric Power Systems," Empire State Electric Energy Research Co., Albany, NY.
39. February 1990, "An Overview of the State-of-the-Art in Voltage Dynamics," North American Reliability Council, Atlanta, GA.
40. March 1990, "Needs for Future Research in Voltage Dynamics," American Electric Power Co., Columbus, OH.
41. April 1990, "Voltage Problem as a New Operating Mode in Electric Power Systems," North Carolina State University, Department of Electrical and Computer Engineering, Raleigh, NC.

42. November 1990, "Voltage Monitoring and Control of Electric Power Systems," MIT Workshop II on Power Systems, Cambridge, MA.
43. December 1990, "Global Research Agenda for Electric Power Systems at MIT," MIT Planning Workshop, Cambridge, MA.
44. June 1991, "MIT Method for Steady State Voltage Monitoring and Corrective Actions," Taiwan Power Co., Taiwan; also Korean Electric Power Co., Seoul, Korea, June. 1991
45. June 1991, "MIT Research in the Area of Power Systems Monitoring and Controls," Kansai Electric Power Co., Osaka, Japan.
46. June 1991, "Voltage Dynamics and Control," Seoul National University, Department of Electrical Engineering, Seoul, Korea.
47. June 1991, "Voltage Problems and Their Controls," Tokyo Electric Power Co., Tokyo, Japan.
48. November 1991, "Power Systems Monitoring and Control Research at MIT," MIT Workshop III, Cambridge, MA.
49. October 1992, "The Future of Energy Transmission in the US Electric Power: Switching to Semiconductors," MIT EECS Colloquium, Cambridge, MA.
50. November 1992, "The Impact of Advanced Technologies on Real Time Control of Power Systems," US Department of Energy Workshop, Denver, CO.
51. January 1993, "Planning and Operating Problems in the Newly Evolving Environment of the Electric Power Systems," MIT Planning Workshop, Cambridge, MA.
52. October 1994, "A Brief Survey of Present System-Wide Functions and Their Role in the Distributed Energy Market– Limits to Distribution," MIT/EUP Workshop on Transmission Distribution Operational Strategies for a Restructured Electric Industry, Cambridge, MA.
53. October 1994, "Optimal Strategies for Changing Power Industry," MIT/EUP Workshop on Transmission Distribution Operational Strategies for a Restructured Electric Industry, Cambridge, MA.
54. November 1994, "A Unified Approach to Real-Time Controls, Accounting and Supporting Policies for Effective Energy Management under Competition," New York Power Pool, Albany, NY.
55. December 1994, "Alternate Operational Strategies for Electric Utility Restructuring," Connecticut Energy Advisory Board, Hartford, CT.
56. December 1994, "Fundamental Problems and Opportunities in Operating Transmission Grid of the Future," University of Maryland Institute for Systems Research, College Park, MD.
57. December 1994, "Systems Engineering Design," University of Maryland, College Park, MD.
58. February 1995, "A Unified Approach to Dynamic Pricing Under Open Access," University of California, Berkeley, CA.
59. June 1995, "Power Pooling for Transmission and Ancillary Services: Balancing Efficiency and Comparability," Beaver Creek, CO.
60. July 1995, "A Unified Approach to Real-Time Controls, Accounting and Supporting Policies for Effective Energy Management under Competition," IEEE Task Force on Controls in the 21st Century," Portland, OR.
61. July 1995, "AGC in Competitive Environment," Workshop on Resource Scheduling and Generation Control, Hilton Head, NC.
62. October 1995, "A Unified Approach to Real-Time Controls and Accounting for Effective Energy Management under Competition," MIT, Cambridge, MA.

63. October 1995, "New Models for Representing Technical and Economic Processes of Energy Management Under Competition," INFORMS'95, New Orleans, LA.
64. October 1995, A Framework for Operations in Competitive Open Access Environment," MIT, Cambridge, MA.
65. September 1995, "R&D Perspective on Pricing Methodologies," ABB Power T D Company, Inc., Transmission Technology Institute, Raleigh, NC.
66. September 1995, "Role of an ISO in Supporting a Competitive Power Market Based on Bilateral Scheduling" (with Frank Graves), Workshop on Restructuring Electric Transmission, Beaver Creek, CO.
67. September 1995, "Trends in Activity-Based Costing," MIT Workshop on Corporate Planning and Technology Management for a Competitive Electric Industry Environment, Cambridge, MA.
68. January 1996, "A New Framework for Operations Planning under Open Access," Electricite de France, Paris, France.
69. January 1996, "Engineering vs. Market-based Pricing for the Interconnected Operating Services," Electric Utility Planning meeting, Cambridge, MA.
70. January 1996, "Open Problems in Using Flexible AC Transmission System (FACTS) Technologies" Electricite de France, Paris, France.
71. February 1996, "A Possible Framework for Operations Planning in a Changing Industry: Coordination vs. Competition," American Electric Power Co., Columbus, OH.
72. June 1996, "Deregulation in the Northeast of the United States," Energy Modeling Forum Stanford University Working Group 15, Washington, DC.
73. July 1996, "Flexible Planning for Power Transmission in a Competitive Industry," MIT, Cambridge, MA.
74. August 1996, "Peak Load Pricing for Transmission," Edison Electric Institute, Washington, DC.
75. August 1996, "Transmission Capacity in Electric Power Networks," 12th Power Systems Computation Conference, Dresden, Germany.
76. September 1996, "Getting it Right the First Time: Value of Transmission and High Technology," Transmission Pricing Conference, Denver, CO.
77. October 1996, "A Framework for Operations in Competitive Electric Power Industry," Cornell University, Ithaca, NY.
78. November 1996, "A Unified Approach to Real-Time Operations, Planning and Accounting Under Open Access," US Department of Energy, Washington, DC.
79. December 1996, "Hierarchical Control Structure and Voltage Control in FACTS Controlled Electric Power Systems," The Korean Electric Power Research Institute, Taejong, South Korea.
80. March 1997, "Power Systems Under Competition," University of Connecticut, Storrs, CT.
81. April 1997, "The Impact of Transmission Constraints on the Electricity Market," IEEE Mid-Hudson Section, Poughkeepsie, NY.
82. April 1997, "Transmission Provision at Times of Scarcity: An ISO Cannot Do it All," Center for Energy and Environmental Policy Research, Cambridge, MA.
83. June 1997, "Long-Term Investment Issues," International Business Communications, Washington, DC.

84. June 1997, "Public Comments to the Task Force on Electric System Reliability," Secretary of Energy Advisory Board, Washington, DC.
85. July 1997, "Vital Issues Panel," Sandia National Laboratory, Washington, DC.
86. October 1997, "Transmission Pricing in New England," Stanford Energy Modeling Forum, Stanford, CA.
87. April 1998, "Control Markets for Deregulated Electric Power Industry," Federal Energy Regulatory Commission, Washington, DC.
88. May 1998, "Transmission Constraints and Market Power," Stanford Energy Modeling Forum, Washington DC.
89. October 1998, "Measuring Power System Performance in the New Industry," PostISO Implementation Conference, Sacramento, California.
90. November 1998, "Electric Power Industry Restructuring: Engineering and Economics," IEEE Distinguished Lecture, Orlando IEEE Chapter.
91. January 1999, "Critical Factors for Forming a Transmission Company," Alliance Transmission Owners, Washington DC, American Electric Power Headquarters.
92. January 1999, "Power Markets: Lessons for Internet," Internet Telephony Consortium Workshop, MIT, Cambridge.
93. February 1999, "On the objectives of transmission pricing," IEEE Panel, Winter Power Meeting, New York.
94. March 1999, "Some Obstacles to Moving Forward with Successful Deregulation of the Electric Power Industry," Federal Energy Regulatory Commission, Washington, D.C.
95. April 1999, "Research Challenges in Electric Power Systems," NSF Workshop on Innovations in Power Engineering Education and Research, National Science Foundation, Washington, DC.
96. June 1999, "Electric Power Restructuring in the United States," IEEE Distinguished Lecture, French Chapter, Paris, France.
97. July 1999, "Measures for Comparing Performance of Regulated and Deregulated Electric Power Industries," Mini Symposium "Modeling and Computational Challenges in Deregulated Electricity Markets," 4th Conference on Industrial and Applied Mathematics, Edinburgh, Scotland.
98. July 1999, "On-line Voltage Regulation in New England," IEEE Panel, Edmonton, Alberta, Canada.
99. October 1999, "Strategic Directions in R&D to meet Future Demand; Setting R&D Priorities," Ontario Electricity Technology Forum: The New Reality, Toronto, Canada.
100. 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.
101. March 2000, The Role of IT in Competitive Electric Power Systems, MIT, Mechanical Engineering Department Series.
102. April 2000, "The Role of IT in the Electric Power Industry," Chicago, IL.
103. 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.
104. September 2000, "Incentives for Transmission Investments: A Proposal for a New England Regional Transmission Organization," Orlando, FL, IEEE Distinguished Lecture.

105. 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.
106. December 2000, Plenary: "The Role of Information Technology in the Electric Power Industry," PowerCon2000, Perth, Australia.
107. April 2001, Electric Power Networks and Data Networks: How Common are the Underlying Problems? EPRI/DOD Meeting, George Washington University, Washington, D.C.
108. June 2001, Change of Paradigms in Complexity and Interdependencies of Infrastructures, OSTP/NSF Meeting, White House, Washington, D.C.
109. June 2001, Decision Tools for Electric Transmission Service and Pricing: A Dynamic Programming Approach, EPRI/DOD Interactive Complex Networks Workshop, Washington, D.C.
110. September 2001, A Possible Transmission Market Design and Performance-Based Tariffs for Prudent Transmission Investments, Electric Power Market Performance Conference, Denver, CO.
111. September 2001, Valuing Transmission Service: Product Definition, Market Design and Software, Electricity Transmission Meeting, IIR, Arlington, VA.
112. October 2001, Protocols and Software for the Changing Electric Power Industry: Tradeoffs between T&D and DG, Alstom/MIT Meeting, Cambridge, MA.
113. November 2001, Model-Based Protocols for the Changing Electric Power Industry, EPP Department Talk, Carnegie Mellon University, Pittsburgh, PA.
114. November 2001, T&D Technologies—Systems Integration Opportunities and Challenges, Carnegie Mellon Workshop on Electricity Security and Survivability, Pittsburgh, PA.
115. November 2001, The Electricity Provision in the Changing Industry, WPI ECE Department Talk Series, Worcester, MA.
116. December 2001, Model-Based Protocols for the Changing Electric Power Industry, MIT LIDS Series Talk, Cambridge, MA.
117. January 2002, "A Proposal for an Inter-Regional Transmission Organization (IRTO)," IEEE Panel, New York City, NY.
118. February 2002, Panel on Electricity Restructuring, AAAS Meeting, Boston, MA.
119. 2003, A Multi-Layered Approach to Transmission Provision and Pricing in the Electric Power Networks, Institute for Mathematics and Applications (IMA), Univ. of Minnesota.
120. January 2003, Transmission Reliability Revisited: Provision and Pricing in the Evolving Electric Power Markets, EPRI/EMF Meeting, Palo Alto, CA.
121. February 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.
122. April 2003, Research on Complex Electric Power Networks, GAO presentation, CMU/ECE Meeting.
123. April 2003, Transformation of Electricity Markets: Value based transmission provision under open access, EPRI Research Advisory Committee (RAC) Meeting, EPP/CMU.
124. June 2003, Risk Management, Liquidity and the Value of Information Technology, North East Power Conference, Boston, MA.
125. October 2003, Dynamic Transmission Provision and Pricing for Electric Power Systems, EPNES NSF Workshop, Orlando, FL.

126. October 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, Chicago, IL .
127. November 2003, Keynote: A Systematic IT Architecture for Efficient Electric Power Industry Under Restructuring: The Missing Mechanism, Its Implications and Possible Design, APSCOM-03, Hong Kong.
128. November 2003, Reliability in the Changing Industry, APSCOM-03 Tutorial (1 entire day), Hong Kong.
129. November 2003, Large-Scale Dynamic Network Systems Revisited: The Case of Electric Power Systems, NSF Workshop on Applied Math, Arlington VA .
130. November 2003, with Dr Poonsaeng Visudhiphan, An Agent-based Approach to Modeling Electricity Spot Markets, IMA Workshop, MN .
131. December 2003, Energy Industry Symposium, Cambridge, MA.
132. December 2003, Potential Implications of Making the Electric Power Network Secure/Reliable on Energy Use, MIT Energy Industry Symposium.
133. March 2004, Workshop on Control and Pricing in Communication and Power Networks, Potential Implications of Making the Electric Power Network Secure/Reliable on Energy Use, MIT .
134. March 2005, Reconciling Hierarchical Control and Open Access in the Changing Electric Power Industry, Proc of the IEEE International Conf on Networking, Sensing and Control, AZ.
135. May 2005, "Investment, Finance, and Safeguarding Public Interests in the Liberalized Electric Sector." Delft University, Netherlands.
136. September 2005, Preventing Future Blackouts by Means of Enhanced Control: From Complexity to Order, PSERC (Tele-Seminar).
137. November 2005, Critically Missing Derivatives in Today's Electricity Markets: A Possible Means of Relating Physical and Financial Signals, European Energy Forum, London, England.
138. November 2005, Preventing Future Blackouts by Means of Enhanced Control: From Complexity to Order, University of Liege, Belgium.
139. November 2005, Trading Commodities Delivered via Complex Physical Networks, Energy Forum, London, UK.
140. December 2005, Toward Value-based Energy Provision under Uncertainties, Cambridge Energy Research Associates.
141. 2006, "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.
142. January 2006, "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.
143. January 2006, Software Needs and its Valuation in the Electric Power Industry.
144. February 2006, "Technology Needs and Valuation in T&D," Florida Central University for Department of Energy (DoE) Panel.
145. May 2006, "Coherence of Technology and Regulation: The Case of Electricity." University of Paris Workshop on the NGI Project.

146. May 2006, "Software Needs and Its Valuation in the Electric Power Industry." University of Novi Sad, Serbia.
147. October 2006, "Engineering Electricity Services of the Future: From Hierarchical to Open Access Systems," IBM Talk, Yorktown, NY.
148. November 2006, Short-term and Long-Term Risks in Electricity Markets, Nice, France.
149. January 2007, "Engineering Electricity Services of the Future: From Hierarchical to Open Access Systems," MIT Invited Lecture, IAP Courses on Sustainable Energy.
150. February 2007, "Long-term Problems with, and Solutions for, Future Energy Systems," Northeastern University, Boston, MA.
151. February 2007, Unlocking Transmission Grid, Georgia Tech University Workshop.
152. October 2007, Keynote: "Engineering Future Energy Systems as Cyber-Physical Ecosystems," IEEE Systems, Man, and Cybernetics Conference (SMC2007), Workshop: eNetworks Cyberengineering: Infrastructures for Cyber-Physical Ecosystems, Montreal, Canada.
153. March 2008, On Different Architectures for Future Energy Systems, PG&E Industry Meeting, Protection and Control Industry Workshop.
154. March 2008, Why Details Matter in Future Energy Systems?, 4th CMU Electricity Conference.
155. May 2008, The Key Role of Network Systems Engineering in Reaching the Energy and Environment Dream, JPL.
156. May 2008, The Key Role of Network Systems Engineering in Reaching the Energy and Environment Dream, Caltech, ACM, Pasadena, CA.
157. September 2008, New Systems Control Problem Formulations for the Changing Electric Energy Industry, ETH, Zurich.
158. September 2008, Sensor-Based Modeling and Control for Future Electric Energy Systems, Smart Energy Strategies, Zurich, Switzerland.
159. October 2008, ECE Graduate Students Seminar Series, Carnegie Mellon University, The Role of Network Systems Engineering in Reaching the Energy and Environment Dream.
160. October 2008, Modeling and Control of Changing Electric Energy Systems, Korean Electric Power Co (KEPCO).
161. October 2008, Sensor-Based Modeling and Control for the Changing Electric Energy Systems, CEIC Talk.
162. October 2008, The Role of Network Systems Engineering in Reaching the Energy and Environment Dream, PSERC Talk.
163. October 2008, The Role of Network Systems Engineering in Reaching the Energy and Environment Dream, ECE Seminar Series, Carnegie Mellon University.
164. December 2008, New Systems Control Formulations for the Changing Electric Energy Industry, Delft University, The Netherlands.
165. December 2008, Research Opportunities and Results in EESG at Carnegie Mellon University, TenneT, The Netherlands.
166. 2009, The Challenge of Moving Forward, National Workshop on Future R&D Needs in Cyber Physical Energy Systems. <http://www.ece.cmu.edu/nsf/cps/>

167. February 2009, "Connecting the Dots: Sensing, Communications and Control for Enhanced Performance in Future Electric Energy Systems," UCLA HSSEAS.
168. February 2009, "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.
169. March 2009, Dynamic Monitoring and Decision Systems (DYMONDS)—Interactive System-Wide Multi-Layered Multi-Directional Means of Integration of Components, NEMA Meeting, Seattle, WA.
170. March 2009, 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.
171. March 2009, Integration, Innovation and Expansion in Undergraduate Education: Energy Systems, 25th ECEDHA Meeting, New Orleans.
172. March 2009, Vision for Dynamic Monitoring and Decision Systems, 5th CMU Conference on Electric Power Industry. <http://www.ece.cmu.edu/electricityconference/>
173. April 2009, Integrating Distributed Energy Resources and Demand-Side Management: The Key Role of Dynamic Monitoring and Decision Systems (DYMONDS), Federal Energy Regulatory Commission (FERC).
174. May 2009, Expected University-Industry Work in the Area of Energy Systems, CCC Workshop, George Mason University. <http://cps.isis.vanderbilt.edu/>
175. May 2009, Integration, Innovation and Expansion in Future Cyber-Physical Energy Systems, CCC Workshop, George Mason University. <http://cps.isis.vanderbilt.edu/>
176. May 2009, New Systems Control Formulations for the Changing Electric Energy Industry, Los Alamos National Laboratory. http://cnls.lanl.gov/External/workshops_2009.php
177. May 2009, The Future of Electricity Systems: General Trends and Developments, "Managing the Increasing Dependence of the Electricity Infrastructure on ICT," Utrecht, The Netherlands.
178. July 2009, "A Novel Fault-Dependent-Time-Settings Algorithm for Overcurrent Relays," IEEE PES General Meeting, Calgary, Canada.
179. July 2009, "Model Predictive Dispatch in Energy Systems with Intermittent Resources," IEEE PES General Meeting, Calgary, Canada.
180. July 2009, "The Role of Dynamic Monitoring and Decision Systems (DYMONDS) in Enabling Adaptive Urban Energy Consumption," 12th ICTPI, Porto, Portugal.
181. September 2009, "Driving Efficiencies and Optimization: Maximizing the Operational Value of Smart Grid," GridWeek, Washington, DC.
182. November 2009, "Dynamic Monitoring and Decision Systems (DYMONDS) for Smart Grids: The Missing Link".
183. November 2009, "Dynamic Monitoring and Decision Systems (DYMONDS) and Smart Grids: One and The Same," EPRI Asset Management Meeting, Dallas, TX.
184. November 2009, "Dynamic Monitoring and Decision Systems (DYMONDS) and Smart Grids: One and The Same," Washington University, St. Louis, MO.
185. November 2009, "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.

186. November 2009, “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.
187. 2010, Integration, Innovation and Expansion in Energy Systems Education, UPM, Madrid, Spain.
188. 2010, Making Transmission Smart: An Opportunity Which Should Not Be Missed, GridWeek.
189. January 2010, Dynamic Monitoring and Decision Systems (DYMONDS) for Smart Grids: The Missing Link, The IEEE Conference on Smart Grids.
190. February 2010, “Engineering Sustainable Electricity Services—The Key Role of Systems Thinking and Automation,” Precourt Institute for Energy.
191. February 2010, Designing Sustainable Electricity Services—The Relevance of Systems Thinking and Automation, ESD Seminar, MIT.
192. April 2010, A Decision Making Framework and Simulator for Sustainable Electric Energy Systems, Boston University.
193. April 2010, Designing Sustainable Electricity Services—The Relevance of Systems Thinking and Automation, Cornell University Seminar.
194. April 2010, Discussion of the White Paper “Plug-in Electric Vehicle Infrastructure: A Foundation for Electrified Transportation,” MITEI Transportation Electrification Symposium, Cambridge, MA.
195. April 2010, Engineering Sustainable Electricity Services—The Key Role of Systems Thinking and Automation, MIT Energy Club Talk, MIT, Cambridge, MA.
196. April 2010, Keynote: From Hierarchical to Open Access Electric Energy Systems: Challenges and Opportunities, 6th NSF/Northeast Control Workshop, John Hopkins University.
197. May 2010, Designing Sustainable Electricity Services—Key Role of Cyber-Physical Energy Systems, China Smart Grid Workshop, Chinese Academies of Science (organizer).
198. May 2010, Toward Sustainability Models of Electric Energy Systems: The Key Role of ICT Design—Smart Grid, The 13th Economics Conference on Infrastructures Delft, The Netherlands.
199. June 2010, A Proposal for Long-Term Energy Market Design: Interactive Planning Framework (IPF) in Support of Sustainable Technologies, FERC Conference.
200. June 2010, On Dynamic Programming (DP) Formulation of Least Cost Planning and an Example, FERC Conference.
201. June 2010, Toward Near Real-Time Fault Simulation, Detection and Testing in Smart Grids, DAC Workshop, Anaheim, CA.
202. June 2010, 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.
203. June 2010, Working on the Right Problem—Key to Bringing Value to the Sustainable Energy Future, 2nd Int’l Conference on Computational Sustainability, MIT, Cambridge, MA.
204. August 2010, Managing Reliability Amidst Major Infrastructure Change - What Do Utilities Need from Smart Grids, Hawaii Electric Co (HECO).
205. August 2010, Integration, Innovation and Expansion in Energy Systems Education, University of Hawaii, REIS.
206. October 2010, Achieving power system efficiency – survivability challenges, Smart Grid Survivability Workshop, Arlington, VA.

207. October 2010, The Challenges and Opportunities in Educating Electric Energy Systems, Dowd Fellowship Celebration, CMU.
208. October 2010, with Le Xie, Emission-Concerned Economic Dispatch with Intermittent Resources: Dependence on Methods Used, Joint Program Seminar.
209. November 2010, Transforming Education in Electric Energy Systems, Electrical and Computer Engineering department Head Association (ECEDHA) Energy Workshop.
210. December 2010, "(Incomplete) History of Power Systems Education and Research at MIT," ESRG Talk, MIT, Cambridge, MA.
211. December 2010, "Dynamic Monitoring and Decision Systems (DYMONDS) for Sustainable Energy Services," University of California, Santa Barbara.
212. December 2010, From Hierarchical to Open Access Electric Energy Systems: Challenges and Opportunities, Czech Republic Visit Presentation, MIT.
213. December 2010, MIT Power Systems History, ESRG Talk.
214. 2011, Complex Power Grids: From Grid-Centric Reliability To Meeting Grid-enabled Users Needs, CPS Annual Meeting, NSF. <http://cps-vo.org/group/pimtg11>
215. March 2011, Dynamic Monitoring and Decision Systems (DYMONDS) and Smart Grids: Key Enablers of Sustainable Energy Services, Cognitive Energy Systems Workshop, Hamilton, CA.
216. January 2011, "IT-enabled Electricity Services: The Missing Piece of the Environmental Puzzle," Issues in Technology and Policy, IAP Seminar Series, MIT.
217. February 2011, Engineering IT-Enabled Electricity Services, MITEI Seminar Series.
218. March 2011, "Fundamental Limits to Hierarchical Control in the Changing Industry and Smart Grids-Enabled Management of Emerging Behavior," 7th CMU Electricity Conference. www.ece.cmu.edu/electriconf/
219. March 2011, "IT for Smart Grid Management and Distributed Generation," Executive Master's Program in Sustainable Energy Systems, MIT, Cambridge, MA.
220. March 2011, "Network Systems Engineering for Meeting Energy and Environmental Dream," Orange Institute, Sensor Networks as the New Growth Opportunity, Madrid, Spain.
221. March 2011, IT for Smart Grid Management and Distributed Generation, Executive Master's Program in Sustainable Energy Systems, MIT.
222. March 2011, Network Systems Engineering for Meeting Energy and Environmental Dream, Orange Institute, Sensor Networks as the New Growth Opportunity.
223. March 2011, What is Smart Grid? The Key Role of Smart Grid on the Way to Sustainable Solar-Electrical Energy Systems, Workshop on Photovoltaic Power Systems, Abu Dhabi, UAE.
224. April 2011, "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.
225. April 2011, "The Key Role of Smart Grid on the Way to Sustainable Solar-Electrical Energy Systems," Workshop on Photovoltaic Power Systems, TU Delft, the Netherlands.
226. April 2011, Dynamic Monitoring and Decision Systems (DYMONDS): A Possible Mechanism for managing and Valuing Inter-Temporal Constraints under Uncertainties, MIT Electricity Student Research Group, MIT.

227. April 2011, The Key Role of Smart Grid on the Way to Sustainable Solar-Electrical Energy Systems, Workshop on Photovoltaic Power Systems, TU Delft, the Netherlands.
228. April 2011, Next Generation Infrastructures: Smart Grids, Opening Lecture, ICNSC-2011-8th IEEE Conference on Networking, Sensing and Control, Delft, The Netherlands.
229. April 2011, 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. <http://www.src.org/program/eri/>
230. May 2011, "Greening the Azores Islands: The Key Role of Dynamic Monitoring and Decision Systems (DYMONDS)," Green Islands Research Integration Workshop, MIT, Cambridge.
231. May 2011, Greening the Azores Islands: The Key Role of Dynamic Monitoring and Decision Systems (DYMONDS), Green Islands Research Integration Workshop, MIT, Cambridge.
232. August 2011, "Complex Power Grids: From Grid-Centric Reliability To Meeting Grid-enabled Users Needs," CPS PI Meeting, Invited Panel on Energy, Arlington, VA.
233. September 2011, Toward Qualitative and Quantitative Sustainability Models of Electric Energy Systems, SAMSI Workshop. <http://www.samsi.info/workshop/uq-engineering-and-renewable-energy-opening-workshopseptember-19-21-2011>
234. October 2011, "Dynamic Monitoring and Decision Systems: The Missing Piece of the Smart Grid Puzzle," SAMSI Smart Grid Workshop.
235. October 2011, "Engineering IT-Enabled Electricity Services," Southern Cal Workshop, Caltech.
236. October 2011, Dynamic monitoring and Decision Systems (DYMONDS) for Sustainable Socio- Ecological Energy Systems (SEES): The Case of Low Cost Green Azores Islands, IBM.
237. October 2011, R&D challenges in distribution grids, electric vehicles, energy efficiency and storage, Hidrocantabrico Workshop, Oviedo, Spain. www.hcenergia.com
238. December 2011, "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.
239. 2012, "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.
240. 2012, "Toward Large-scale Distributed Control for Tomorrow's Electricity Grid," Semi-Plenary talk, American Control Conference (ACC).
241. January 2012, Invited Lectures, The Tenth TCS Excellence in Computer Science Week (TECS Week), Pune, India. http://www.tcs-trddc.com/tecsweek/tecsweek_home.html
242. February 2012, "Engineering IT-Enabled Electricity Services: The Case of Low-Cost-Green Azores Islands," Carnegie Mellon University, ECE Graduate Student Seminar.
243. March 2012, "Software for Future Electric Energy Industry: The Major Challenge and Opportunity," NRC Commissioner Briefing.
244. April 2012, "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.
245. May 2012, "Methods for Exploring Non-Transmission Solutions to Integrating Renewable Power," SRC ERI.

246. May 2012, "My Work on the Puzzle of Complex Electric Energy Systems," Women in Engineering Invited Panel, IEEE T&D Conference and Exposition, Orlando, FL.
247. May 2012, "Software for Future Electric Energy Industry: The Major Challenge and Opportunity," NRECA Presentation.
248. May 2012, "Standards for Dynamics in Future Electric Energy Systems," PSERC White Paper Webinar.
249. May 2012, "Toward Assessing Relative Value of Central Generation and DERs," Federal Energy Regulatory Commission.
250. June 2012, "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.
251. July 2012, "A Systems Approach to Teaching Electric Energy Systems," IEEE General Meeting, San Diego, CA, invited session on Collaborative Education.
252. July 2012, "Toward a New IT Framework and Implementation Platform in Future Electric Energy Systems," The MIT-Stanford 'Game Changers' Conference II, Cambridge, MA.
253. July 2012, "Toward New Operating Framework in Future Electric Energy Systems," The MIT-Stanford 'Game Changers' Conference II, Cambridge, MA.
254. July 2012, "Ancillary Services in Systems with High Penetration of DERs," Super Session, IEEE PES General Meeting, San Diego.
255. August 2012, Keynote: "Toward IT-Enabled Power Systems: Large-scale distributed control for tomorrow's electricity grid," SGE-2012.
256. September 2012, Keynote: "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, So Miguel Island, Azores, Portugal.
257. September 2012, "Toward IT-enabled Electricity Services: The Tale of Two Low-Cost Green Azores Islands," Energy Efficiency for a More Sustainable World (EEMSW) Sao Miguel.
258. October 2012, Keynote: "Structure-Based Modeling and Control of Future Electric Energy Systems," 2012 Symposium on Emerging Topics in Control and Modeling UIUC.
259. November 2012, "Engineering IT-Enabled Electricity Services: The Case of Low-Cost-Green Azores Islands," Carnegie Mellon University Dean's Council.
260. November 2012, "Making the Most out of Energy Technologies at Value," IEEE-USA Energy Policy Committee.
261. January 2013, "Dynamic Monitoring and Decision Systems for Sustainable Electric Energy Service," Harvard School of Engineering and Applied Science.
262. February 2013, "Dynamic Monitoring and Decision Systems (DyMonDS) for Sustainable Electric Energy Service," Great Lakes Energy Institute, Case Western Reserve University .
263. February 2013, "Dynamic Monitoring and Decision Systems (DyMonDS) Framework: Toward Making the Most Out of Available Electric Energy Technologies at Value," DIMACS Workshop on Energy Infrastructure: Designing for Stability and Resilience.
264. March 2013, "A Distributed Multiparty Power Flow Algorithm with Secure Exchange of Information," John Hopkins CPS Workshop .

265. March 2013, "Dynamic Monitoring and Decision Systems (DyMonDS) Framework for Integration of New Technologies at Value in Electric Energy Systems," US Department of Energy.
266. March 2013, "Dynamic Monitoring and Decision Systems (DyMonDS) Framework for Integration of New Technologies at Value in Electric Energy Systems," ARPA-E Grid .
267. May 2013, "Dynamic Monitoring and Decision Systems (DyMonDS) Framework Sustainable Electricity Services at Value," IBM.
268. May 2013, "Toward IT-Enabled End-to-End Smarter Electric Energy Systems," Smart Grid Development in US and China, US NAE.
269. May 2013, "The Role of Synchronphasors in Ensuring Reliable Power System Control," Thorp-Phadke Symposium, Virginia Tech.
270. June 2013, "Engineering IT-Enabled Electricity Services: The Tale of Two Low-Cost-Green Azores Islands," Greenmetrics ACM Workshop . www.sigmetrics.org/greenmetrics/2013/
271. June 2013, "The challenge of distributed plug-and play deployment in future electric energy systems," DAC2013 Workshop. www.sigmetrics.org/greenmetrics/2013/
272. June 2013, "Dynamic Monitoring and Decision Systems (DyMonDS) Framework for Integration of New Technologies at Value in Electric Energy Systems," International Council on Systems Engineering (INCOSE).
273. July 2013, "Sustainable Electricity Services Grid Alstom". www.alstom.com/usa/
274. July 2013, "Potential Role of Big Data in Power Systems Control," IEEE PES meeting.
275. September 2013, "Possible Framework for Integrating New Technologies at Value in Electric Energy Systems," Future Green Technologies: Challenges and Opportunities Workshop, Lehigh University. www.lehigh.edu/ingrid/workshops/green_energy.html
276. September 2013, "Control Architectures for Future Power Grids," NITRD HICSS Working Group. <https://www.nitrd.gov/>
277. September 2013, "Smart Grids: End-to-End Cyber Physical Systems (CPS) for Sustainable Socio-Ecological Energy Systems," ISR Model-Based Systems Engineering Colloquium, University of Maryland. http://www.isr.umd.edu/sites/default/files/Marija_Ilic.pdf
278. October 2013, "The Role of T&D in Managing Technologies at Value Under Uncertainties," EISPC Washington DC.
279. November 2013, "Critical Assessment of R&D Needs for Future Electric Energy Systems–Why One Size no Longer Fits All?," NSF Workshop on Control, Communications and Computing.
280. November 2013, "Smart Grids: End-to-End Cyber Physical Systems (CPS) for Sustainable Socio-Ecological Energy Systems," Stanford University.
281. November 2013, "A Possible Framework to Integrating Intermittent Resources and Responsive Demand at Value," California ISO.
282. November 2013, "Things never quite turn out the way you plan it...maybe better?," ECE Women in Engineering (WIN), Carnegie Mellon University.
283. January 2014, "A possible framework for distributed (multi-layered) electric energy systems," 1st JST-NSF- DFG workshop on Distributed Energy Management Systems. <http://www.jst-nsf-dfg-distenergyman.org/>

284. January 2014, "Smart Grids: End-to-End Cyber Physical Electric Energy Systems," Computational Science Ventures (CSV) Mini-Symposium. <http://computefest.seas.harvard.edu/computational-science-ventures>
285. February 2014, "The Challenges and Opportunities in Educating Electric Energy Systems," ISGT2014 Panel on Education Washington, DC 01/20/2014.
286. March 2014, "The Challenges and Opportunities in Educating Electric Energy Systems," IEEE ECE TF for Energy and Information.
287. April 2014, "Things never quite turn out the way you plan it...maybe better?," CPS2014 Week N2 Women Lunch Meet, Berlin, Germany.
288. April 2014, Keynote: "Integration of Heterogeneous Small Test Beds for Emulating Large-Scale Smart Power Grids: The Emphasis on Cyber Architectures," MSC PES2014 Workshop, Berlin, Germany.
289. July 2014, "Rethinking Data-Driven Software for Sustainable Electric Energy Services: From Data Gathering, through Learning and Decision Making," IEEE PES Invited Panel on Challenges and Solutions of Big Data for Power System Operations.
290. July 2014, "Planning Value-Based Transmission," IEEE PES Invited Panel on Transmission Planning.
291. July 2014, "Demonstration of a Possible Solution to the Seams Problem in the North-East (NE) U.S. System and Beyond," IEEE PES Invited Panel on Seams.
292. August 2014, "Physics-Based Foundations for Cyber and Market Design in Complex Electric Energy Systems," Invited tutorial, IEEE CDC.
293. August 2014, "Next generation energy networks–Toward Making the Most Out of Available Electric Energy Technologies at Value," University of Gronningen, NL Energy Summer School.
294. August 2014, "Large-scale feedback distributed control for tomorrow's electricity grid," University of Gronningen, NL.
295. September 2014, "Research requirements for the evolving electric energy systems," DFG-round-table regarding the topic: "Tentative research topics in the frame of energy technology under economic and social aspects," Planning phase 2014, Head office, Deutsche Forschungsgemeinschaft Ahrstrasse 45, 53175 Bonn.
296. September 2014, "Transformational Education in Electric Energy Systems at ECE," CMU, 18-200.
297. October 2014, "Toward standards for sustainable electric energy systems: The basis for plug-and-play industry paradigm," IEEE Technology Time Machine, San Jose, CA.
298. October 2014, "Toward standards for dynamics in future electric energy systems: The basis for plug-and-play industry paradigm," LCCC Workshop Lund, Sweden. https://www.lccc.lth.se/media/LCCC2014/WorkshopNetwork/Ilic_LCCC_actual_Oct2014_actual_presentation.pdf
299. November 2014, Keynote: "The Role of Sensing, Estimation, and Communications in the Emerging Electric Energy Systems," IEEE Smart Grid Comm 2014 .
300. November 2014, "Toward standards for dynamics in future electric energy systems: The basis for plug-and-play industry paradigm," University of California, Berkeley.
301. November 2014, "Physics-based approach to plug-and-play in electric energy systems," University of Southern California.
302. January 2015, "Toward Dynamic Monitoring and Decision (DYMONDS)–Based Smart Distribution Systems," Electricite de Portugal (EdP).

303. February 2015, "Next Generation Energy Networks–Toward Making the Most Out of Available Electric Energy Technologies at Value," University of Illinois at Urbana Champaign Power Energy Conference.
304. April 2015, "A New Unifying Modeling for Scalable Simulation-based Test Beds of Future Electric Energy Systems: Smart Grid in a Room Simulator (SGRS) at CMU," JST-NSF-DFG Workshop on Distributed Energy Management Systems, NSF, Arlington VA. <http://current.utk.edu/news/press-releases/curent-and-nsf-sponsor-2015-jst-nsf-dfg-rcn-workshop/>
305. May 2015, "Bridging Gap between Modern Grid Design, Operations and Software," May 6, 2015, CMU Scott Institute Workshop.
306. May 2015, "Toward massive integration of power electronics control in future electric energy systems at value," Vasteras, ABB.
307. May 2015, Keynote: "Bridging Gap between Modern Grid Design, Operations and Software," FESC, Orlando FL. <http://floridaenergy.ufl.edu/fesc-conferences/fesc-may-2015-workshop/>
308. July 2015, "Bridging the Gap between Investment, Operations and Software for Sustainable Electric Energy Systems," IEEE PES Supersession.
309. May 2016, "Electricity Market Design–Multi-layered CPS Problem," IMA Workshop on Control at Large Scales: Energy Markets and Responsive Grids.
310. September 2016, "Toward a Unified Approach to Sustainable and Resilient Electric Energy Systems–Modeling, Control and Testbeds," Invited distinguished lecture INECS-ID, IST, Lisbon, Portugal.
311. December 2016, "A structural approach to operations in the changing industry," PSERC Systems Stem Presentation, Atlanta GA.
312. January 2017, "Toward a Unified Approach to Sustainable and Resilient Electric Energy Systems–Modeling, Control and Testbeds," Invited lecture MIT (CMU) HARPS Workshop, Tokyo Japan.
313. February 2017, "Cyber-secure Energy Systems," Governor Summit on Energy & Infrastructure, Washington, DC. <http://iogcc.ok.gov/governorenergysummit-2017>
314. February 2017, "Future of Control Systems in Power Grids," MIT ILP General Electric visit.
315. February 2017, "Smart Grid in a Room Simulator (SGRS): Toward Plug-and-Play Design and Operation of Microgrids," Microgrid & DER Controller Symposium, MIT Cambridge.
316. May 2017, "Rethinking electric power systems-data-enabled social-ecological systems," Smart Grids and Energy Services. <https://lidssmart2017.mit.edu/location/>
317. May 2017, "The New Utility: Basic Enabler of Sustainable and Resilient Electric EnergyServices?," Smart Grids Seminars, Stanford University.
318. June 2017, "Cyber-security for Energy Systems," 2017 JST-NSF-RCN Workshop on Distributed Energy Management Systems, Japan, Tokyo.
319. July 2017, "Market Integration Between Wholesale and Retail Markets," Panel Session on Big Data Analytics for Electricity Markets, IEEE PES, Chicago, Illinois.
320. July 2017, "Challenges and opportunities in terrestrial electrical power systems," AIAA PE Forum.
321. September 2017, "Toward a Unified Modeling, Simulations and Control for Sustainable and Resilient Electric Energy Systems," MIT Workshop on Rethinking Modeling, Simulations for the Changing Electric Energy System.

322. September 2017, Plenary: “Towards assessing effects of new technologies in electric energy systems: New modular modeling and simulations paradigm,” IEEE NAPS2017.
323. December 2017, “Opportunities and Challenges for Evolving the Electric Power Systems,” MITeI Annual Research Conference, MIT, Cambridge.
324. February 2018, “Toward Sustainable and Resilient Puerto Rico Power Sector,” Financial Oversight and Management Board for Puerto Rico (FOMB) meeting, NYC.
325. February 2018, “Interactive Planning Framework (IPF) for Assessing Future Power Grid Architectures in Puerto Rico,” MIT internal meeting.

Postdoctoral Associates

Milos Cvetkovic, Assistant Professor, TU Delft University.

Kevin Bachovchin, Engineer, Bettis Atomic Power Laboratory.

Nipun Popli, Postdoctoral Associate, MIT Energy Initiative.

Doctoral Theses Supervised

- Taylor, David G, "Control of Nonlinear Systems with Application to Electrical Machines and Robotic Manipulators," December 1987 (University of Illinois)
- Christensen, J, "Secondary Voltage Control Using Partial Information Structures," December 1987 (University of Illinois)
- Crow, M, "Systems of Differential/Algebraic Equations with Applications to Power System Transient Stability Analysis," September 1989 (University of Illinois)
- Mak, Fong K., "Modeling and Control of Slow Voltage Dynamics in Electric Power Systems," September 1989 (University of Illinois)
- Doerry, N, "Advanced Numerical Methods for Simulating Nonlinear Multirate Lumped Models (co-supervised with J. Kirtley," June 1991 (Ocean Engineering Department, MIT)
- Amy, J, "Composite System Stability Methods Applied to Advanced Shipboard Electric Power Systems (co-supervised with J. Kirtley," June 1992 (Ocean Engineering Department, MIT)
- Liu, X, "Structural Modeling and Hierarchical Control of Large-Scale Electric Power Systems," June 1994 (Mechanical Engineering Department, MIT)
- Eidson, D, "Estimation and Hierarchical Control of Market-driven Electric Power Systems," September 1995 (MIT)
- Chapman, J, "Power System Control for Large-Signal Stability: Security, Robustness and Transient Energy," June 1996 (MIT)
- Zobian, A, "A Framework for Pricing Transmission and Ancillary Services in Competitive Electric Power Markets," June 1996 (MIT)
- Cardell, J, "Integrating Small Scale Distributed Generation into a Deregulated Market: Control Strategies and Price Feedback (Best Thesis award) (co-supervised with R. Tabors)," September 1997 (TMP, MIT)
- Allen, E, "Stochastic Unit Commitment for a Deregulated Electric Power Industry," June 1998 (MIT)
- Yu, Chien-Ning, "Hierarchical congestion management for a deregulated power industry," August 1999 (Mechanical Engineering Department, MIT)
- Millis, Kathryn, "Distributed Measures of Solution Existence and Its Optimality in Stationary Electric Power Systems: Scattering Approach," August 1999 (MIT)
- Arce, Rafael Jose, "Transmission Reliability Assessment in a Competitive Electric Energy Industry (co-advised with F.F. Garces)," February 2001 (Universidad Nacional de San Juan, Argentina)
- Skantze, P, "A Fundamental Approach to Valuation, Hedging and Speculation in Deregulated Electricity Markets," June 2001 (EECS, MIT)
- Yoon, Yong Tae, "Electric Power Network Economics: Designing Principles for a For-Profit Independent Transmission Company and Underlying Architectures for Reliability," June 2001 (EECS, MIT)

- Visudhiphan, Poonsaeng, “An Agent-Based Approach to Modeling Electricity Spot Markets,” May 2003 (EECS, MIT)
- Botterud, Audun, , “Modeling and Analysis of Investment Dynamics in the Changing Electric Power Industry (co-advised with Trodheim),” June 2005 (NTNU)
- Minoia, Anna, “Reference Transmission Network Concept in an Oligopolistic Electricity Market: a Game Theory Approach (co-Advisor: Michele Trovato),” June 2005 (Dipartimento di Elettrotecnica ed Elettronica , Politecnico di Bari)
- Black, Jason, “Technical and Regulatory Methods for Inducing Price Responsiveness in Regulated Electricity Markets,” June 2005 (ESD/TMP, MIT)
- Elizondo, Marcelo , “Fast Control of Electric Power Systems and Market Design for Their Valuation (co-advised with F.F. Garces),” June 2009 (Universidad Nacional de San Juan, Argentina)
- Liu, Juhua, “Advanced Control of Power Systems (co-advised with Bruce Krogh),” December 2009 (Carnegie Mellon University (Pittsburgh, PA))
- Xie, Le, “A Framework for Distributed Decision Making in Electric Energy Systems with Intermittent Resources,” December 2009 (ECE Department, Carnegie Mellon University (Pittsburgh, PA))
- Houwing, Michiel, “Smart Heat and Power Creating Economic Value with Micro Cogeneration through Intelligence (EPP Visiting Student 2007-2008, Delft University of Technology, Netherlands),” February 2010 (Carnegie Mellon)
- Prica, Marija, “An Algorithmic Interactive Planning Framework in Support of Sustainable Technologies,” May 2010 (Carnegie Mellon University (Pittsburgh, PA))
- Zhang, Yi, “Toward Smarter Protection in Power Grids: Applications of Support Vector Machines (SVM) and Communications to Protection Relays (co-advised with Ozan Tonguz),” June 2010 (Carnegie Mellon University (Pittsburgh, PA))
- Liao, Huaiwei, “Measuring Cascading Risks in Large Scale Power Grids (co-advised with Sarosh),” June 2010 (Carnegie Mellon University (Pittsburgh, PA))
- Blood, Ellery, “Enhancing Electric Power System Estimation (co-advised with Bruce Krogh),” May 2011 (Carnegie Mellon University (Pittsburgh, PA))
- Wu, Zhyiong (Richard), “Stratum Electricity Markets: Toward Multi-Temporal Distributed Risk Management for Sustainable Electricity Provision,” May 2012 (EPP Department, Carnegie Mellon University (Pittsburgh, PA))
- Masoud H, “Making the Most out of Distributed Generation without Endangering Normal: A Model-Based Technical-Policy Approach (co-advised with Joao Pecas Lopes, UFP, Porto) ,” September 2012 (EPP, Carnegie Mellon University (Pittsburgh, PA))
- Abdel-Karim, Noha, “Multi-Temporal Decomposed Wind and Load Power Models for Electric Energy Systems,” September 2012 (Carnegie Mellon University (Pittsburgh, PA))
- Joo, Jhi-Young, “Adaptive Load Management: Multi-Layered and Multi-Temporal Optimization Of The Demand Side In Electric Energy Systems,” May 2013 (ECE Department, Carnegie Mellon University (Pittsburgh, PA))
- Verzijlbergh, Remco A, “Integration of EVs at Value,” May 2013 (TPM, TU Delft)
- Cvijic, Sanja, , “Computer Methods for Detecting and Managing Parallel and Loop Flows in Large Electric Power Systems,” May 2013 (Carnegie Mellon University (Pittsburgh, PA))
- Cvetkovic, Milos, “Power-Electronics-Enabled Transient Stabilization of Power Systems Submitted,” May 2013 (ECE Department, Carnegie Mellon University (Pittsburgh, PA))

- Weng, Yang, “Statistical and Intertemporal Methods Using Embeddings for Non-linear AC Power System State Estimation (co-advised with Rohit Negi),” August 2013 (ECE Department, Carnegie Mellon University (Pittsburgh, PA))
- Liu, Qixing, “A Large-Scale Systems Framework for Coordinated Frequency Control of Electric Power Systems,” December 2013 (ECE Department, Carnegie Mellon University (Pittsburgh, PA))
- Donadee, Jonathan, “Optimal Use of Energy Storage for Arbitrage and Ancillary Services,” May 2015 (ECE Department, Carnegie Mellon University (Pittsburgh, PA))
- Bachovchin, Kevin D, “Electromechanical Design and Applications in Power Grids of Flywheel Energy Storage Systems (co-advised with Jim Hoburg),” May 2015 (ECE, Carnegie Mellon University (Pittsburgh, PA))
- Hsu, Andrew, “A Network Graph-based Framework for Modeling, Calculating and Controlling Feasible AC Electric Power Delivery,” October 2015 (Carnegie Mellon University (Pittsburgh, PA))
- Junlakarn, Siripha, “Retail Market Mechanism in Support of Differentiated Reliable Electricity Services,” December 2015 (EPP Department, Carnegie Mellon University (Pittsburgh, PA))
- Baros, Stefanos, “Distributed Control for Wind Farm Power Output Stabilization and Regulation,” May 2016 (ECE Department, Carnegie Mellon University (Pittsburgh, PA))
- Tee, Chin Yen, “Market Design for the Future Electricity Grid: Modeling Tools and Investment Case Studies,” March 2017 (EPP Department, Carnegie Mellon University (Pittsburgh, PA))
- Popli, Nipun, “Multi-layered Energy Conversion and Frequency Control in Complex Electric Power Systems,” May 2017 (ECE Department, Carnegie Mellon University (Pittsburgh, PA))
- Prada, Jose Fernando, “Ensuring the Reliable Operation of the Power Grid: State-Based and Distributed Approaches to Scheduling Energy and Contingency Reserves,” September 2017 (EPP Department, Carnegie Mellon University (Pittsburgh, PA))
- Rupamathi Jaddivada (MIT), 2015–present
- Ana Jevtic (MIT), 2016–present
- Xia Miao (MIT), 2016–present

Master’s Theses Supervised

- Varghese, Matthew, “Participation factors for governor power flow algorithms,” 1983 (Electrical Engineering, Drexel University)
- Schulz, 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)
- Crow, M, “Transient Stability Simulation by Waveform Relaxation Techniques,” September 1986 (University of Illinois)
- Mak, Fong K., “Instantaneous Torque Control of Switched Reluctance Motors Using Floquet Theory,” 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, "Using Reactive Power Reserves for Hierarchical Control of Electric Power Systems," June 1990 (Mechanical Engineering Department, MIT)
- Kiryaman, T, "Nonlinear Analysis and Control of Switched-Mode DC to DC Converters," February 1991 (Nuclear Engineering Department, MIT)
- Millis, Kathryn, "Modelling and stability of parallel converters," June 1991 (MIT)
- Lim, K, "Coordination and Control Logic Design for Slow Voltage Control Devices in Electric Power Systems," September 1991 (Mechanical Engineering Department, MIT)
- Tolikas, M, "The Application of Homotopy Methods in the Analysis of Electric Power Systems," June 1992 (MIT)
- Nishimura, F, "Benefit Optimization of Electric Energy Exchange in a Deregulated Multi-Utility Environment (co-supervised with R. Tabors)," June 1992 (TPP, EECS, MIT)
- Jaber, Z, "Computer Applications in Power Systems (co-supervised with M. Yehia)," September 1992 (American University of Beirut, Lebanon)
- Lacalle-Melero, J, "Short Term Stability Analysis of Electrical Energy Markets Under the Real Time Pricing," February 1993 (MIT)
- Lasota, C, "Reactivity Estimation and Validation for the Control of Reactor Neutronic Power (co-supervised with J. Bernard and D. Lanning)," June 1993 (Nuclear Engineering Department, MIT)
- Chapman, J, "Feedback Linearizing Generator Excitation Control for Enhanced Power System Stability," September 1993 (MIT)
- Allen, E, "Effects of Torsional Dynamics on Nonlinear Generator Control," February 1995 (MIT)
- LaWhite, N, "Vector Calculus of Periodic Non-Sinusoidal Signals for Decomposition of Power Components in Single and Multiphase Circuits," June 1995 (MIT)
- Yu, Chien-Ning, "Real Power and Frequency Control of Large Electric Power Systems under Open Access," June 1996 (Mechanical Engineering Department, MIT)
- Cordero, R, "Estimation of Transmission Losses in a Changing Electric Power Industry," June 1996 (MIT)
- Zobian, A, "A Framework for Cost-based Pricing of Transmission and Ancillary Services in Competitive Electric Power Markets," June 1996 (MIT)
- Lecinq, B, "Peak-load Pricing for Transmission in a Deregulated Electric Utility Industry," June 1996 (Civil Engineering Department, MIT)
- Kuan, J, "Optimal Power Flow with Price-Elastic Demand," September 1996 (MIT)
- Yoon, Yong Tae "Enhancement of Electric Power Systems Operation Using FACTS Devices," February 1997 (MEng, EECS, MIT)
- Castillo Martinez, J, "How to Make Electric Power Markets Work: The Case of Central America," June 1997 (MIT)
- Lerner, P, "On the Value of Transmission Systems under Open Access: Incentives for Investment," June 1997 (MIT)
- Macan, E, "Peak-Load Pricing for the IEEE Reliability Test System," June 1997 (MEng, EECS, MIT)
- Younes, Z, "Deregulation of the Electric Power Industry: The Impact of Transmission on Market Imperfections," February 1998 (Civil Engineering Department, MIT)

- Skantze, P, "Closed-loop Market Dynamics in a Deregulated Electric Power Industry," February 1998 (MIT)
- Shalafi, A, "Available Transmission Capability in Deregulated Electric Power Industry: A Critical Assessment," June 1998 (MIT)
- Alumran, A, "Available transfer capability for electric power markets: a critical appraisal," June 1998 (MEng, EECS, MIT)
- Visudhiphan, P, "A Dynamic Model of the Electricity Generation Market," September 1998 (MIT)
- Leotard, J, "Transmission Pricing and Incentives for Investments under Uncertainty in the Deregulated Industry," February 1999 (TPP, Civil Engineering, MIT)
- Prada, J, "Valuation of Operating Reserve in Power Systems," June 1999 (TPP, EECS, MIT)
- Chalermkraivuth, Charles, "Distributed Generation: The Strategies and Decision Criteria of Market Participants," February 2001 (TPP, ESD, MIT)
- Tsuchida, Bruce, "Design of an Information Entity-The InfoCo-for the Electric Power Industry Under Restructuring," June 2001 (TPP, ESD and EECS, MIT)
- Gozum, Ozge Nadia, "Decision Tools for Transmission Service and Pricing: A Dynamic Programming Approach (Gullemin Prize Thesis Award for best EECS thesis)," June 2001 (EECS, MIT)
- Collison, Kenneth, "A Practical Approach to Optimal Pricing and Implementation of Inter-regional Transactions in the Deregulated US Electricity Market," June 2001 (TPP, ESD, MIT)
- Raikar, Santosh, "Interruptible Physical Transmission Contracts for Congestion Management," July 2001 (TPP ESD, MIT)
- Wagner, Michael, "Hedging Optimization Algorithms for Deregulated Electricity Markets," June 2001 (MEng, EECS, MIT)
- Watz, Jill, "The Role of Government in Facilitating Customer Choice in the Electric Power Industry Under Restructuring," February 2002 (TPP, ESD, MIT)
- Gatterbauer, Wolfgang, "Interdependence of Electricity Market Characteristics and Bidding Strategies of Power Producers," May 2002 (EECS, MIT)
- Sivakumar, I, "Stochastic optimization of electricity transmission: dynamic programming algorithms under uncertainties," June 2002 (EECS, MIT)
- Amini, M, "An Aggregated Framework for Electric Vehicle's Charging Demand as Dispatchable Loads and Effects of EVs on Network Loss Minimization," July 2005 (Carnegie Mellon University (Pittsburgh, PA))
- Thatte, Anupam, "MS Course Option student," December 2005 (Carnegie Mellon University (Pittsburgh, PA))
- Prica, Marija, "Transmission Planning in the Changing Electric Power Industry (co-advised with Prof. D. Popovic)," June 2006 (University of Novi Sad)
- Liu, Juhua, "Mid-term Instabilities in Electric Power Systems (co-advised with Bruce Krogh)," June 2007 (ECE, Carnegie Mellon University (Pittsburgh, PA))
- Zhang, Yi, "Smart Relays," January 2009 (Carnegie Mellon University (Pittsburgh, PA))
- Rotering, Niklas, "Optimal Plug-in Electric Vehicle Charge Control in Deregulated Electricity Markets," March 2009 (ETH, Zurich and CMU, jointly)

- Cvijic, Sanja, "A Modeling Framework for Capturing Parallel Flows and Effects of Bilateral Contracts in an Evolving Industry," May 2010 (ECE Department, Carnegie Mellon University (Pittsburgh, PA))
- Bachovchin, Kevin, "Magnetic Fields and Forces in an Ambient Temperature Passive Magnetically Levitated Bearing System," December 2011 (ECE Department, Carnegie Mellon University (Pittsburgh, PA))
- Dowdle, Aidan, "A Requirements Analysis Methodology for Turboelectric Aircraft," June 2017 (MIT)