

CURRICULUM VITAE

Gabriela Hug-Glanzmann

Carnegie Mellon University
Department of Electrical and Computer Engineering
and Department of Engineering and Public Policy
5000 Forbes Ave, Pittsburgh, PA, 15213
Phone: +1 (412) 268-5919
Fax: +1 (412) 268-3890
Email: ghug@ece.cmu.edu

1257 Manor Drive
Pittsburgh, PA 15241
Phone: +1 (412) 425-0941

Education

- 05/04 – 04/08: **PhD in Information Technology and Electrical Engineering**
Power Systems Laboratory, ETH Zurich, Switzerland
Thesis: “Coordinated Power Flow Control to Enhance Steady-State Security in Power Systems”
Advisor: Prof. Göran Andersson; Co-Examiners: Prof. Antonio Conejo, Prof. Manfred Morari
- 10/04 – 04/07: **Degree in Higher Education (Höheres Lehramt)**
ETH Zurich, Switzerland
- 10/99 – 04/04: **M.Sc. in Information Technology and Electrical Engineering**
ETH Zurich, Switzerland
Thesis: “Supervisory water level control for cascaded river power plants”
Advisor: Prof. Manfred Morari

Professional Experience

- 08/11 – present **Affiliated Assistant Professor**
Department of Engineering and Public Policy, Carnegie Mellon University, Pittsburgh, USA
- 07/09 – present **Assistant Professor**
Department of Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, USA
- Research: power flow control as enabler of wind generation integration, microgrid management, distributed predictive control for large-scale systems, coordination of intermittent generation with storage devices, optimal control for hydro power plants
 - Teaching: graduate and undergraduate courses in power systems
- Note:
- **Leave** (08/2010 – 12/2010)
 - **Leave** (01/2012 – 05/2012)
- 05/08 – 05/09 **Assistant Network Management Engineer**
Special Studies Group, Hydro One, Toronto, Canada
- Project Work: overvoltage studies due to line breaker reclosure, simulations for dynamic transformer rating, investigations on noise mitigation options for transformer cooling fans, investigations on

electronic home equipment damage due to lightning strike in microwave tower, literature search on health effects of wind turbines, probabilistic assessment of relay failures and implications on required workforce

- Teaching: assisting in power system fundamentals course, preparing and grading of quizzes and part-time teaching

06/04 – 04/08

Scientific Assistant

Power Systems Laboratory, ETH Zurich, Switzerland

- Research: development of a control scheme for the coordination of FACTS devices in power systems, implementation of control scheme in MATLAB
- Teaching: writing lecture scripts, coordinating and giving recitation classes, supervising student projects, formulating exam questions and grading exams

09/06 – 10/06

Visiting Scholar

Delft Centre of Systems and Control, TU Delft, The Netherlands

- Research: multi-area control in power systems

Teaching Experience

- **Carnegie Mellon University, Department of Electrical and Computer Engineering**
 - Spring 2014: “Optimization in Energy Networks” (graduate)
 - Fall 2013: “Fundamentals in Electric Energy Systems” (undergraduate)
Course Evaluation: 4.25/5.00, Teaching Evaluation: 4.25/5.00
 - Spring 2013: “Optimization in Energy Networks” (graduate)
Course Evaluation: 4.55/5.00, Teaching Evaluation: 4.50/5.00
 - Fall 2012: “Fundamentals in Electric Energy Systems” (undergraduate)
Course Evaluation: 4.44/5.00, Teaching Evaluation: 4.33/5.00
 - Fall 2011: “Optimization in Energy Networks” (graduate)
Course Evaluation: 4.19/5.00, Teaching Evaluation: 4.33/5.00
 - Spring 2011: “Fundamentals in Electric Energy Systems” (undergraduate)
Course Evaluation: 3.81/5.00, Teaching Evaluation: 4.00/5.00
 - Fall 2009: “Optimization in Energy Networks” (graduate)
Course Evaluation: 4.27/5.00, Teaching Evaluation: 4.00/5.00
- **Hydro One, Special Studies Group**
 - Fall 2008/Spring 2009: “Electric Power Systems” for newly hired employees (coordinated and partly taught course)
- **Zurich University of Applied Sciences**
 - Winter 2005/2006: “Signals and Systems I” (taught course partly as mandatory training for Höheres Lehramt)
- **ETH Zurich, Department of Information Technology and Electrical Engineering**
 - Winter 2004/2005 – Winter 2007/2008 :
Teaching Assistant, Power Systems Laboratory
Coordinated and taught recitation classes “Electric Circuits I” (undergrad.), supervised student projects

Winter 2001/2002 - Summer 2003:

Teaching Assistant, Control Laboratory
Updated lecture notes for “Signals and Systems II” (undergrad.),
wrote instructions for laboratory exercises and supervised
undergraduate student projects

Summer 2002, Summer 2003:

Teaching Assistant, Electrical Engineering Development
Taught recitation class “Electrical Engineering” (undergraduate)

Winter 2000/2001:

Teaching Assistant, Electronics Laboratory
Taught recitation class “Digitaltechnik” (undergraduate)

Awards and Honors

- IEEE Power and Energy Society Outstanding Young Engineer Award 2013
- National Science Foundation Career Award 2013
- Wimmer Faculty Grant 2010
- ABB Research Award 2008
- 2nd place ETG-Innovation-Award 2008
- ETG-Innovation-Award 2005
- ETH medal 2004
- 2nd place Award for young researchers of the journal “Technische Rundschau” 2004
- DaimlerChrysler Scholarship 2001 – 2003

Professional Activities

Committees

- Member, Department Head Search Committee, Department of Electrical and Computer Engineering, Carnegie Mellon University, October/November 2013
- Member, Department Head Search Committee, Department of Engineering and Public Policy, Carnegie Mellon University, August 2013 – present
- Member, Strategic Planning Committee, Carnegie Institute of Technology, Carnegie Mellon University, August 2013 – present
- Member, Faculty Search Committee, Energy and the Environment, Civil and Environmental Engineering Department, Carnegie Mellon University, 2012/2013
- Member, Faculty Search Committee, Energy Infrastructure Systems, Civil and Environmental Engineering Department, Carnegie Mellon University, 2010
- Chair, ECE Graduate Seminar Organizing Committee, Carnegie Mellon University, 2011 – 2012
- Member, ECE Graduate Seminar Organizing Committee, Carnegie Mellon University, 2009 – 2011

Reviewing Activities

Energy Systems, IEEE Transactions on Power Systems, IEEE Transactions on Control Systems Technology, IEEE Transactions on Smart Grid, IET Generation, Transmission and Distribution, Proceedings of the IEEE, IEEE PES General Meeting 2014, Power Systems Computation Conference (PSCC) 2014, North American Power Symposium 2013, SmartGridComm 2013, Multi-Conference on Systems and Control 2013, Innovative Smart Grid Technology Conference (ISGT) Europe 2012, American Control Conference 2012, Conference on Decision and Control and European Control Conference 2011, Power Systems

Computation Conference (PSCC) 2011, Power Systems Conference and Exhibition (PSCE) 2011, PowerTech Conference 2007

Technical Societies

- Member of Power Engineering Society (since 2009)
- Member, Institute of Electrical and Electronics Engineers (since 2005)
- Member of IEEE Women in Engineering (since 2005)

Research Groups

- Co-Director, Electric Energy Systems Group, Carnegie Mellon University (2010 – present)
- Member, Power Systems Engineering Research Center (PSERC) (2009 – present)
- Member, Carnegie Mellon Electricity Industry Center (CEIC) (2009 – present)
- Member, HYCON, Network of Excellence of European Universities in Hybrid Control (2005 – 2008)

Conference Committees, Boards, Working Groups and Panel Reviews

- Member, Technical Program Committee, CMU Electricity Conference, 2014
- Member, Technical Program Committee, Power Systems Computation Conference, 2014
- Member, Technical Program Committee, IEEE SmartGridComm Symposium, 2013
- Panel Organizer, PES General Meeting, 2013
- Chair, IEEE Women in Engineering, Pittsburgh Section, 2012 – present
- Member, Faculty Senate, Carnegie Mellon University, 2012 – present
- Member, University Research Council, Carnegie Mellon University, 2012 – present
- Session Chair, North American Power Symposium, 2012
- Technical Program Committee, ISGT Europe 2012
- Participant IEEE Smart Grid Vision Project for Control Systems, 2011 – 2013
- National Science Foundation Panel Reviewer, 2010 – present
- Session Chair CMU Electricity Conference, 2010 and 2011

Supervised Students

Postdoctoral Students

- Mohsen Rahmani (EPP, June 2013 – present) (main advisor: Paulina Jaramillo)
Project: “Power Grid Reliability Implication of Environmental Regulation and Coal Plant Retirement in Systems with Large Scale Penetration of Wind Generation”
- Chenye Wu (ECE, October 2013 – present) (co-advisor: Soumya Kar)
Project: “Consensus plus Innovation Approach for Distributed Optimization in Electric Power Systems”

PhD Students

- Rui Yang (ECE, 08/2009 – present, expected graduation May 2014)
Project: “Optimal Usage of Transmission Capacity Using Power Flow Control Devices”
- Dinghuan Zhu (ECE, 08/2009 – present, expected graduation May 2014)
Project: “Multi-timescale Control of Energy Storage enabling the Integration of Renewable Generation”
Honors: ICES Dowd Fellowship

- Kyri Baker (ECE, 08/2010 – present) (main advisor; co-advisor: Xin Li)
Project: “Methods and Tools for Planning, Management and Control in Large-Scale Systems: Enabling the Integration of Intermittent Energy Sources”
- Todd Ryan (EPP, 11/2010 – present) (co-advisor; main advisor: Paulina Jaramillo)
Project: “Economic Evaluation of Balancing Area Consolidation for Wind Integration”
- Hameed Safiullah (EPP, 08/2011 – present) (co-advisor; co-advisor: Rahul Tongia)
Project: “Optimal Frequency Regulation Design and Cost Evaluation in India and the US”
Honors: CSTEP fellowship
- Javad Mohammadi (ECE, 01/2012 – present) (co-advisor; co-advisor: Soumya Kar)
Project: “Computational Methods for the Optimal Deployment of Ubiquitous Power Flow Control Devices”
- Andrew Hamann (EPP, 08/2012 – present)
Project: “Value of Coordinated Control of Cascaded Hydro Power Plants to enable increased Penetration of Renewable Generation”
Honors: Bertucci Fellowship
Hydro Foundation Fellowship
Steinbrenner Institute Graduate Fellowship
- Xiao Zhang (ECE, 01/2013 – present)
Project: “Leveraging Process Automation for Demand Side Management”
- Dmitry Shchetinin (ECE, 08/2013 – present)
Project: “Toward an Intelligent and Self-Managing Power Grid enabled by Power Flow Control and Distributed Grid Management”
- Junyao Guo (ECE, 08/2013 – present) (main advisor, co-advisor: Ozan Tonguz)
Project: “Distributed Optimization in the Operation of the Future Electric Power System”

Master Students

- Zhe Yu (Semester project, Spring 2010; Summer Project 2010)
- Christopher Peplin (Development project, April 2010 – December 2010)
- Lukas Wehinger (Visiting Student ETH Zurich, MSc project, April 2010 – October 2010)
- Ruvini Kankanamalage (Visiting MSc Student, Summer project, Summer 2010)
- Harald Franchetti (Visiting Student TU Vienna, MSc project, January 2011 – Sept. 2011)
- Deepak Viswanath (Semester project, Spring 2011)
- Amritanshu Pandey (Semester project, Fall 2011; Semester Project, Spring 2012; Semester Project, Fall 2012)
- Vasileios Krassas (Semester project, Spring 2012)
- Hao Ming (Semester Project, Fall 2012; Semester Project, Spring 2013)
- Bo Cui (Summer Project, Summer 2013; Semester Project, Fall 2013)

Undergraduate Students

- Liang Tang (Semester project, Spring 2011; Semester Project, Fall 2011)
- Ee Kent Lew (Semester project, Spring 2011)
- Mark Lim (Semester Project, Fall 2011; Semester Project, Spring 2012)
- Aakriti Gupta (Semester Project, Fall 2011)
- Arushi Chawla (Summer Project, Summer 2013, received SURF grant)

- Alvin Mao (Summer Project, Summer 2013)

PhD Committee Member

- Ellery Blood (ECE, CMU, 2009)
- Juhua Liu (ECE, CMU, 2010)
- Kyle Anderson (ECE, CMU, 2011)
- Sumit Mitra (CHEME, CMU, 2011)
- Anu Narayanan (EPP, CMU, 2011)
- Colleen Horin Lueken (EPP, CMU, 2012)
- Sanja Cvijic (ECE, CMU, 2012)
- Xue Yang (CHEME, CMU, 2013)
- Tao Cui (ECE, CMU, 2013)
- Emre Can Kara (CEE, CMU, 2013)
- Allison Weis (EPP, CMU, 2014)

Awarded Grants, Contracts and Gifts

- “Distributed Optimization of Electric Power Systems: Intelligent Partitioning,” (Co-PI, PI: Ozan Tonguz), Scott Energy Institute, CMU, 04/2014 – 03/2015
- “Optimal Sizing of Energy Storage and Fast-Ramping Generation in the Electric Power System Under Uncertainties,” (PI), Joint Institute of Engineering CMU/SYSU, 01/2014 – 12/2014, \$172,802
- “Distributed Computing Environment for Electric Power Systems Applications,” (PI), Berkman Fund, CMU, 12/2013 – 12/2015, \$4,250
- “Power Grid Reliability Implication of Environmental Regulation and Coal Plant Retirement in Systems with Large Scale Penetration of Wind Power,” (Co-PI, PI: Paulina Jaramillo, Co-PI: Jay Apt), NETL, 06/2013 – 11/2014
- “A Collaborative Distributed Optimization Framework for Robust Energy Management in Microgrids,” (Co-PI, Co-PI: Soumya Kar), Scott Energy Institute, CMU, 10/2013 – 10/2014, \$50,000
- “Distributed Optimization in the Operation of the Future Electric Power System,” (PI, Co-PI: Ozan Tonguz), ABB, 08/2013 – 07/2014, \$75,000 (possible extension to 4 year project)
- “CAREER: Toward an Intelligent and Self-Managing Power Grid enabled by Power Flow Control and Distributed Grid Management,” (PI), National Science Foundation, 01/2013-12/2017, \$400,000
- “The Next Generation Power Converter: Applications for Enhanced T&D Grid Performance and Resource Integration,” (Co-PI (PI for CMU), PI: Greg Reed (University of Pittsburgh), Co-PIs: Keith Dodrill and Steven Bossart (NETL), Gregory Dobbs (Penn State University), Dushan Boroyevich (Virginia Tech), Parviz Famouri (West Virginia University)), NETL, 07/2012 – 12/2013, \$500,000 (CMU: \$100,000)
- “Demand Side Management for Industrial Customers,” (PI, Co-PI: Ignacio Grossmann), ABB, 01/2013 – 01/2015, \$191,470 (possible extension to 4 year project)
- “Distributed Power Flow Control using Smart Wires for Energy Routing,” (Co-PI, PI: Smart Wire Grid, Inc; Co-PIs: Innoventor, New Potato Technologies, Georgia Tech/NEETRAC), ARPA-E, 07/2012 – 12/2013, \$4,400,000 (CMU: \$404,000)
- “Control of Power Flow Control Devices for Optimal Usage and Enhancement of Transmission Capacity,” (PI), Bonneville Power Administration, 11/2011-10/2012, \$70,182
- “Control Algorithms for the Optimal Usage and System Integration of Sodium-Ion Batteries,” (PI, Co-PI: Jay Whitacre), Innovation Works, 01/2011 – 08/2011, \$85,000

- “Designing SCADA Systems for the Self-Verifiability of Their Security & Survivability,” (Co-PI, PI: Joseph Giampapa), Department of Energy, 01/2011 – 08/2012, \$250,000
- “Planning, Management and Control in Large-Scale Systems: Enabling the Integration of Intermittent Energy Sources,” (PI, Co-PI: Xin Li), National Science Foundation, 09/2010 – 09/2013, \$346,215
- “Tools and techniques for considering transmission corridor options to accommodate large scale renewable energy resources,” (Co-PI, PI: Vijay Vittal), Power Systems Engineering Research Center, 07/2010 – 06/2012, \$190,000 (CMU: \$60,000)
- “New Course: Fundamentals in Electric Energy Systems,” Wimmer Faculty Grant, 04/2010 – 04/2011, \$2800
- “Smart Microgrid Management,” (PI), Lockheed Martin, 12/2009 – 07/2010, \$100,000

Patents

S. Kar, G. Hug, J. Moura, “Distributed Method for Balancing Supply and Demand in an Electric Power Network,” Provisional Patent filed on July 17, 2013

Publications

Book Chapters

- [BC2] IEEE Standards Association, “IEEE Vision for Smart Grid Controls: 2030 and Beyond,” IEEE Press, June 2013
- [BC1] R.R. Negenborn, G. Hug-Glanzmann, B. De Schutter, G. Andersson, “A Novel Coordination Strategy for Multi-Agent Control Using Overlapping Subnetworks with Application to Power Systems” in Javad Mohammadpur, Karolos M. Grigoriadis, “Efficient Modeling and Control of Large-Scale Systems,” Springer, 2010

Journal Papers

- [J11] G. Hug, S. Kar, H. Ming, “Distributed Approach for DC Optimal Power Flow Calculations,” under review
- [J10] G. Hug, S. Kar, “Consensus + Innovation Approach for Multi-Agent Coordination in a Microgrid,” under 2nd round review
- [J9] D. Zhu, G. Hug, “Decomposed Stochastic Model Predictive Control for Optimal Dispatch of Storage and Generation,” under 2nd round review
- [J8] R. Yang, G. Hug, “Potential and Efficient Computation of Corrective Power Flow Control in Cost vs. Risk Trade-Off,” under 2nd round review
- [J7] R. Yang, G. Hug, “Regression-Based FACTS Control for Optimal Usage of Transmission Capacity,” *IET Generation, Transmission and Distribution*, to appear
- [J6] D. Zhu, G. Hug, “Coordination of Storage and Generation in Power System Frequency Control using H_∞ Approach,” *IET Generation, Transmission and Distribution*, Vol. 7, No. 11, pp. 1263-1271, 2013
- [J5] L. Wehinger, G. Hug, M. D. Galus, G. Andersson, “Modeling Electricity Wholesale Markets with Model Predictive and Profit Maximizing Agents,” *IEEE Transactions on Power Systems*, Vol. 28, No. 2, pp. 868-876, May 2013
- [J4] G. Hug, J.A. Giampapa, “Vulnerability Assessment of AC State Estimation with Respect to Data Injection Cyber-Attacks,” *IEEE Transactions on Smart Grid*, Vol. 3, No. 3, pp. 1362-1370, September 2012

- [J3] G. Hug-Glanzmann, G. Andersson, “N-1 Security in Optimal Power Flow Control Applied to Limited Areas”, *IET Generation, Transmission and Distribution*, Vol. 3, Iss. 2, pp. 206 – 215, 2009
- [J2] G. Hug-Glanzmann, G. Andersson, “Decentralized Optimal Power Flow Control for Overlapping Areas in Power Systems”, *IEEE Transactions on Power Systems*, Vol. 24, No.1, pp. 327 - 336, February 2009
- [J1] R. Sachs, G. Glanzmann, M. von Siebenthal, “Automatische Stauziel- und Durchflussregulierung einer Flussstaukette,” *Bulletin SEV/AES*, No. 15/05, 2005

Conference Papers

- [C35] E.C. Kara, M. Berges, G. Hug, „Modeling Thermostatically Controlled Loads to Engage Households in the Smart Grid: Lessons Learned from Residential Refrigeration Units,“ submitted
- [C34] A. Hamann, G. Hug, “Real-Time Optimization of a Hydropower Cascade using a Linear Modeling Approach,” submitted
- [C33] T. Cui, R. Yang, F. Franchetti, G. Hug, “Accelerated AC Contingency Calculation on Commodity Multi-Core SIMD CPUs,” submitted
- [C32] D. Zhu, G. Hug, “Decomposition Methods for Stochastic Optimal Coordination of Energy Storage and Generation,” submitted
- [C31] X. Zhang, G. Hug, “Optimal Regulation Capacity Provision by Electrolysis Processes,” submitted
- [C30] J. Mohammadi, G. Hug, S. Kar, “Role of Communication on the Convergence Rate of Fully Distributed DC Optimal Power Flow,” submitted
- [C29] E. C. Kara, Z. Kolter, M. Berges, B. Krogh, G. Hug, T. Yuksel, “A Novel State Estimation Technique in Control of Heterogeneous Thermostatically Controlled Load Populations for Demand Response,” *SmartGridComm*, Vancouver, Canada, 2013
- [C28] K. Baker, D. Zhu, G. Hug, X. Li, “Jacobian Singularities in Optimal Power Flow Problems Caused by Intertemporal Constraints,” *North American Power Symposium*, Manhattan, USA, 2013
- [C27] R. Yang, G. Hug, “Locational Security Impact Factors for Security Index Constrained Economic Dispatch Problem,” *North American Power Symposium*, Manhattan, USA, 2013
- [C26] J. Mohammadi, G. Hug, S. Kar, “Corrective Security Constrained OPF with Power Flow Control using Benders Decomposition,” *PES General Meeting*, Vancouver, Canada, 2013
- [C25] A. Pandey, G. Hug, “Quantifying Operational Flexibility Enabled by VSC-HVDC lines and FACTS,” *PES General Meeting*, Vancouver, Canada, 2013
- [C24] G. Hug, “Distributed Optimization to enable a Flexible Power Grid with Corrective Power Flow Control,” *PES General Meeting*, Vancouver, Canada, 2013
- [C23] R. Yang, G. Hug, “Regression-Based Corrective Power Flow Control for Risk Minimization,” *PES General Meeting*, Vancouver, Canada, 2013
- [C22] G. Hug, “Generation Cost and System Risk Trade-off with Corrective Power Flow Control,” *Allerton Conference*, Urbana-Champaign, USA, 2012
- [C21] K. Baker, G. Hug, X. Li, “Integration of Inter-Temporal Constraints into a Distributed Newton Raphson Method,” *North American Power Symposium*, Urbana-Champaign, USA, 2012
- [C20] J. Mohammadi, G. Hug, S. Kar, “On the Behavior of Responsive Loads in the Presence of DFACTS Devices,” *North American Power Symposium*, Urbana-Champaign, USA, 2012

- [C19] D. Zhu, G. Hug, “Robust Control Design for Integration of Energy Storage into Frequency Regulation,” *ISGT Europe*, Berlin, Germany, 2012
- [C18] S. Kar, G. Hug, “Distributed Robust Economic Dispatch in Power Systems: A Consensus + Innovation Approach,” *PES General Meeting*, San Diego, 2012
- [C17] R. Yang, G. Hug, “Optimal Usage of Transmission Capacity with FACTS Devices to Enable Wind Generation Integration: A Two-Stage Approach,” *PES General Meeting*, San Diego, 2012
- [C16] K. Baker, G. Hug, X. Li, “Optimal Integration of Intermittent Energy Sources Using Distributed Model Predictive Control,” *PES General Meeting*, San Diego, 2012
- [C15] R. Kankanamalage, G. Hug-Glanzmann, “Transmission Capacity Enhancement by Optimal Usage of Storage Devices,” *PES General Meeting*, Detroit, USA, 2011
- [C14] G. Hug-Glanzmann, “Model Predictive Control for the Coordination of Wind and Hydro Power,” *PES General Meeting*, Detroit, USA, 2011
- [C13] D. Zhu, G. Hug-Glanzmann, “Real-Time Control of Energy Storage Devices in Future Electric Power Systems,” *PowerTech Conference*, Trondheim, Norway, 2011
- [C12] G. Hug-Glanzmann, “A Hybrid Approach to Balance the Variability and Intermittency of Renewable Generation,” *PowerTech Conference*, Trondheim, Norway, 2011
- [C11] L. Wehinger, G. Hug-Glanzmann, M. Galus, G. Andersson, “Assessing the Effect of Storage Devices and a PHEV Cluster on German Spot Prices by Using Model Predictive and Profit Maximizing Agents,” *Power Systems Computation Conference*, Stockholm, Sweden, 2011
- [C10] D. Zhu, R. Yang, G. Hug-Glanzmann, “Managing Microgrids with Intermittent Resources: A Two-Layer Multi-Step Optimal Control Approach,” *North American Power Symposium*, Arlington, Texas, USA, 2010
- [C9] G. Hug-Glanzmann, “Coordination of Intermittent Generation with Storage, Demand Control and Backup Generation,” *iREP Symposium - Bulk Power Systems Dynamics and Control*, Armação de Búzios, Brazil, 2010.
- [C8] G. Hug-Glanzmann and G. Andersson, “An Accurate and Efficient Current Injection Method for the Determination of the System State during Line Outages,” *16th Power Systems Computation Conference*, Glasgow, Scotland, 2008
- [C7] G. Hug-Glanzmann and G. Andersson, “Coordinated control of FACTS devices in power systems for security enhancement,” *iREP Symposium - Bulk Power Systems Dynamics and Control*, Charleston, USA, 2007.
- [C6] G. Hug-Glanzmann, R. Negenborn, G. Andersson, B. De Schutter, H. Hellendoorn, “Multi-area control of overlapping areas in power systems for FACTS control,” *IEEE PES PowerTech Conference*, Lausanne, Switzerland, 2007.
- [C5] G. Glanzmann and G. Andersson, “Incorporation of N-1 Security into Optimal Power Flow for FACTS control,” *Power Systems Conference and Exposition*, Atlanta, USA, 2006.
- [C4] G. Glanzmann and G. Andersson, “FACTS control for large power systems incorporating security aspects,” *X SEPOPE*, Florianopolis, Brazil, 2006.
- [C3] G. Glanzmann and G. Andersson, “Coordinated control of FACTS devices based on Optimal Power Flow,” *37th North American Power Symposium*, Ames, USA, 2005.
- [C2] G. Glanzmann and G. Andersson, “Using FACTS devices to resolve congestions in transmission grids,” *Cigre/IEEE PES Symposium*, San Antonio, USA, 2005.
- [C1] G. Glanzmann, M. von Siebenthal, T. Geyer, G. Papafotiou, M. Morari, “Supervisory water level control for cascaded river power plants,” *Hydropower Conference*, Stavanger, Norway, 2005.

Talks

- [T41] “Towards a Self-Managing and Sustainable Grid enabled by Distributed Decision-Making,” Center for Climate and Energy Decision Making, Carnegie Mellon University, January 2014
- [T40] “Towards a Self-Managing Grid using Distributed Optimization,” Georgia Tech, Atlanta, November 2013
- [T39] “Towards a Self-Managing Grid using Distributed Optimization,” Cornell University, Ithaca, November 2013
- [T38] “Distributed Optimization to enable a Flexible Power Grid with Corrective Power Flow Control,” IEEE PES General Meeting, July 2013
- [T37] “Introducing Pre-Engineering Female Students to the Challenges of Renewable Generation: An Experience Report,” IEEE PES General Meeting, July 2013
- [T36] “Applications of Decomposition Theory and Consensus-based Methods for Distributed Optimization in Electric Power Systems,” University of California Berkeley, May 2013
- [T35] “Corrective Power Flow Control: Computational Aspects and Benefit Analysis,” ETH Zurich, Switzerland, April 2013
- [T34] “Distributed Optimization in Electric Power Systems: Methods and Applications,” University of Washington, February 2013
- [T33] “Distributed Optimization in Electric Power Systems: Methods and Applications,” Electric Energy Systems Group, Carnegie Mellon University, November 2012
- [T32] “Distributed Optimization in Electric Power Systems: Methods and Applications,” Iowa State University, November 2012
- [T31] “Generation Cost and System Risk Trade-off with Corrective Power Flow Control,” 50th Annual Allerton Conference on Communication, Control and Computing, Urbana-Champaign, October 2012
- [T30] “Distributed Optimization in Electric Power Systems: Methods and Applications,” University of Illinois at Urbana-Champaign, October 2012
- [T29] “Smart Grid: Control Infrastructure for the Future Electric Power System,” Silicon Valley Dean’s Council, September 2011
- [T28] “Smart Grid: Control Infrastructure for the Future Electric Power System,” PSII: Smarter Energy Local Interest Group, CMU, Pittsburgh, September 2011
- [T27] “A Hybrid Approach to Balance the Variability and Intermittency of Renewable Generation,” PowerTech Conference, Trondheim, Norway, June 2011
- [T26] “Real-Time Control of Energy Storage Devices in Future Electric Power Systems,” PowerTech Conference, Trondheim, Norway, June 2011
- [T25] “A Hybrid Approach to Balance the Variability and Intermittency of Renewable Generation,” Chalmers University, Gothenburg, Sweden, May 2011
- [T24] “Scheme based on Regression Analysis for the Determination of Power Flow Control Device Settings,” Lineus Excellence Center, Lund University, Lund, Sweden, May 2011
- [T23] “A Hybrid Approach to Balance the Variability and Intermittency of Renewable Generation,” Arizona State University, April 2011
- [T22] “Potential of Storage and Hydro Power for the Integration of Intermittent Renewable Resources,” University of Michigan, March 2011

- [T21] “The potential of hydro power for the integration of wind generation,” CMU Electricity Conference, March 2011
- [T20] “Potential of Storage and Hydro Power for the Integration of Intermittent Renewable Resources,” IEEE PES Pittsburgh Chapter, February 2011
- [T19] “The Value of Predictive Control in the Future Electric Power System,” Center for Advanced Process Decision-making (CAPD), Carnegie Mellon University, January 2011
- [T18] “Future Electric Power System: Challenges and Opportunities,” CMU Alumni Chapter, Princeton, November 2010
- [T17] “Smart Grid Research at CMU,” President’s Weekend, Carnegie Mellon University, October 2010
- [T16] “Coordinated Control and Optimization in Electric Power Systems,” ABB, Raleigh, October 2010
- [T15] “Coordination of Intermittent Generation with Storage, Demand Control and Backup Generation,” iREP Symposium - Bulk Power Systems Dynamics and Control, Armação de Búzios, Brazil, August 2010
- [T14] “Control of Power Flow Control Devices in the Electric Power System,” CEIC Seminar, Engineering and Public Policy Department, Carnegie Mellon University, April 2010
- [T13] “Systems Aspects of Storage for Wind Integration,” 6th Annual Carnegie Mellon Conference on the Electricity Industry, Pittsburgh, March 2010
- [T12] “Using FACTS and smart control to move more power through the transmission system,” Senate Staff Briefing, Washington DC, January 2010
- [T11] “Research in Electric Power Systems at Carnegie Mellon University,” PA Region 13 Full Scale Utility Subcommittee Meeting, October 2009
- [T10] “Decentralized Optimal Power Flow Control for the Coordination of Power Flow Control devices,” Carnegie Mellon University, October 2008
- [T9] “Coordinated Control of FACTS Devices for Security Enhancement,” Second Manchester Seminar for young researchers in power systems, September 2007
- [T8] “Coordinated control of FACTS devices in power systems for security enhancement,” iREP Symposium - Bulk Power Systems Dynamics and Control, Charleston, USA, August 2007.
- [T7] „Multi-area control of overlapping areas in power systems for FACTS control,” IEEE PES PowerTech Conference, Lausanne, Switzerland, July 2007.
- [T6] “Supervisory Water level Control for Cascaded River Power Plants,” Model Predictive Control Seminar, ETH Zurich, March 2007
- [T5] “Improvement of Steady-State Security in Power Systems by the Usage of FACTS Devices,” Delft Center for Systems and Control, TU Delft, October 2006
- [T4] “Incorporation of N-1 Security into Optimal Power Flow for FACTS control,” Power Systems Conference and Exposition, Atlanta, USA, October 2006.
- [T3] “FACTS control for large power systems incorporating security aspects,” X SEPOPE, Florianopolis, Brazil, May 2006.
- [T2] “Coordinated control of FACTS devices based on Optimal Power Flow,” 37th North American Power Symposium, Ames, USA, October 2005
- [T1] “Using FACTS devices to resolve congestions in transmission grids,” Cigre/IEEE PES Symposium, San Antonio, USA, October 2005

Outreach and Mentorship

- [M7] Instructor, Summer Engineering Experience for Girls, 2011 – present
- [M6] Mentor of 8 MS Students, Fall 2010 – present
- [M5] Panelist, “Incoming Faculty Orientation”, CMU, August 2010
- [M4] Lab Assistant, Summer Engineering Experience for Girls, July 2010
- [M3] Faculty Judge CIT Poster Session, Annual Meeting of the Minds Undergraduate Research Symposium, May 2010
- [M2] Mentor of 15 undergraduate students, Fall 2009 – present
- [M1] “My way to CMU,” invited talk at Women in ECE (WinECE) Fall Dinner, Sept. 2009

References

Available upon request