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**Department of Electrical and Computer Engineering**  
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### **Education and Training**

University of Wisconsin-Madison	Electrical and Computer Engineering	BSEE, 1983
University of Wisconsin-Madison	Electrical and Computer Engineering	MSEE, 1988
University of Wisconsin-Madison	Electrical and Computer Engineering	PhD, 1991

### **Research and Professional Experience**

TEES Distinguished Research Professor, Texas A&M University, College Station, TX, 2017-Present

Fox Family Professor of Electrical and Computer Engineering, University of Illinois at Urbana-Champaign, 2006-2016

Professor, Department of Electrical and Computer Engineering, University of Illinois at Urbana-Champaign, 2003-Present

Associate Professor, Department of Electrical and Computer Engineering, University of Illinois at Urbana-Champaign, 1997-2003

Assistant Professor, Department of Electrical and Computer Engineering, University of Illinois at Urbana-Champaign, 1991-1997

Madison Gas and Electric, EMS Operations Engineer, 1983-1991

### **Ten Selected Publications**

1. A.B. Birchfield, T. Xu, K. Gegner, K.S. Shetye, T.J. Overbye, "Grid Structural Characteristics as Validation Criteria for Synthetic Networks," *IEEE Transactions on Power Systems*, vol. 32, pp. 3258-3265, July 2017
2. M. Kazerooni, H. Zhu, T.J. Overbye, D. Wojtczak, "Transmission System Geomagnetically Induced Current Model Validation," *IEEE Transactions on Power Systems*, vol. 32, pp. 2183-2192, May 2017
3. A.B. Birchfield, K.M. Gegner, T. Xu, K.S. Shetye, T.J. Overbye, "Statistical Considerations in the Creation of Realistic Synthetic Power Grids for Geomagnetic Disturbance Studies," *IEEE Transactions on Power Systems*, vol. 32, pp. 1502-1510, March 2017
4. S. Kim, T.J. Overbye, "Mixed Transient Stability Analysis Using AC and DC Models," *IEEE Transactions on Power Systems*, vol. 31, pp. 942-948, March 2016
5. K. S. Shetye, T. J Overbye, S. Mohapatra, R. Xu, J. F. Gronquist, and T. Doern, "Systematic Determination of Discrepancies across Transient Stability Software Packages," *IEEE Transactions on Power Systems*, vol 31, pp. 432-441, January 2016
6. H. Zhu, T.J. Overbye, "Blocking Device Placement for Mitigating the Effects of Geomagnetically Induced Currents," *IEEE Transactions on Power Systems*, vol. 30, pp. 2081-2089, July 2015
7. S. Mohapatra, W. Jang, T.J. Overbye, "Equivalent Line Limit Calculations for Power System Equivalent Networks," *IEEE Transactions on Power Systems*, vol. 29, pp. 2338-2346, Sept. 2014

8. S. Dutta, T.J. Overbye, "Feature Extraction and Visualization of Power System Transient Stability Results," *IEEE Transactions on Power Systems*, vol.29, no.2, pp.966,973, March 2014
9. T.J. Overbye, K.S. Shetye, T.R. Hutchins, Q. Qiu, J.D. Weber, "Power Grid Sensitivity Analysis of Geomagnetically Induced Currents," *IEEE Transactions on Power Systems*, vol. 28, pp. 4821-4828, November 2013
10. M.K. Kezunovic, J. McCalley, T.J. Overbye, "Smart Grids and Beyond: Achieving the Full Potential of Electricity Systems," *Proceedings of IEEE, Special Centennial Issue*, vol. 100, pp. 1329-1341, May 2012

### **Awards and Honors**

1. Walter Fee Outstanding Young Engineer Award, IEEE Power Engineering Society, 1993.
2. Best Paper Award, Hawaii International Conference on System Sciences, 1997.
3. Prize Paper Award, IEEE Power Engineering Society, 1999
4. IEEE Third Millennium Medal, 2000.
5. IEEE Power Engineering Society Chapter Outstanding Engineer Award, 2001
6. IEEE Region 4 Power Engineering Society Outstanding Engineer Award, 2001
7. Sigma Xi Distinguished Lecturer, 2001-2003
8. Alexander Schwarzkopf Prize for Technological Innovation, NSF I/UCRC Association, 2005.
9. Distinguished Achievement Award, University Wisconsin Madison College of Engineering, 2005
10. IEEE PES Outstanding Power Engineering Educator Award, 2011
11. Member, US National Academy of Engineering, 2013

### **Synergistic Activities**

1. Original developer of PowerWorld Simulator and co-founder of PowerWorld Corporation. PowerWorld Simulator is an innovative software package for power system analysis and visualization. Through PowerWorld Corporation this package has been sold to approximately 600 different corporate entities, including a number of the world's largest utilities and energy companies. Most recently took lead on integration of transient stability analysis into PowerWorld Simulator (2006-present), and integration of geomagnetic disturbance (GMD) modeling into PowerWorld Simulator (2011-present).
2. Member of the U.S. DOE August 14<sup>th</sup> 2003 Blackout Investigation Team. Conducted initial DOE site visits at First Energy and MISO in August/September 2003 (along with Doug Wiegmann), and participated in follow up site visits in October 2003. Also, member of DOE Power Outage Study Team (POST) in 1999, and member of the U.S. DOE National Transmission Grid Study team (NTGS) formed in 2001 to access the U.S. transmission grid; co-author of one of six issue papers and helped to prepare final report.
3. Co-author of book *Power System Analysis and Design* by Glover, Sarma and Overbye, fourth, fifth and sixth editions, 2007, 2012, 2016
4. Co-chair National Research Council Analytical Research Foundations for the Next-Generation Electric Grid Committee, 2013-2016
5. Conducting ongoing research in the areas of power system analysis, dynamics, visualization, cyber security and geomagnetic disturbance modeling