

Ahmad S Abdulwahab

Professor, Department of Electrical and Computer Engineering, King Abdulaziz University

Education

<i>Degree</i>	<i>Field of Study</i>	<i>Institution</i>	<i>Year</i>
Ph.D.	Electrical Engineering	University of Saskatchewan	2003
MS	Electrical Engineering	University of Saskatchewan	2000
BS	Electrical Engineering	King Abdulaziz University	1996

Academic Experience

2018 -present	Full Professor, Elect. & Comp. Engineering Dept., KAU
2015 -present	Member of the semi-jurisdiction electricity industry dispute resolution committee formed by the Saudi Council of Ministers
2015-present	Director of KAU Business Accelerator
2015- 2016	Acting Dean of Community College, University of Jeddah
2012- present	Dean of Jeddah Community College (JCC), KAU
2012- present	Associate Professor, Elect. & Comp. Engineering Dept., KAU
2011-2013	Director of the expertise houses sector, KAU
2009-2010	Consultant for the Electricity & Co-Generation Regulatory Authority Saudi Arabia
2008-2010	Vice dean for development and technology, JCC, KAU
2007-2008	Chairman of the Computer Information Technology Department, JCC, KAU
2003-2012	Assistant professor at elect. and comp. engg. dept. at KAU
1996-2003	Lecturer at elect. and comp. engg. dept. at King Abdulaziz University
Summer 2007	Visiting scholar, University of Manchester, UK
Winter 2010	Visiting professor, University of Saskatchewan, Canada
Winter 2003	Visiting scientist, Kenictrecs (Power industry consulting company), Toronto, Canada

Non-Academic Experience (Including Consultations)

2015 -present	Member of the semi-jurisdiction electricity industry dispute resolution committee formed by the Saudi Council of Ministers
2009-2010	Consultant for the Electricity & Co-Generation Regulatory Authority Saudi Arabia

Funded Research Projects and Patents From The Last Five Years

- 1- EGTran: Integrated Model of Electric Power and Natural Gas Transmission Systems for Enhancing the Infrastructure Security in Saudi Arabia by KAU as a PI
- 2- EGPLAN: Security-Constrained Co-optimization Planning Algorithm for Electricity and Natural Gas Transportation Infrastructures by KAU as a PI
- 3- Design of a Bilevel Model for Analyzing Coordinated Cyber-Physical Attacks on the Electric Power System Infrastructure by KAU as a PI
- 4- COPLAN: Next-Generation Expansion Planning Tool for Electric Power Systems by KACST-NSTIP as a PI
- 5- MERGE: Microgrids for Economics and Resiliency of the Grid Enterprise by KACST-NSTIP as a PI

Certifications and Professional Registrations

2019	Certified Measurement & Verification Professional CMVP® by the Association of Energy Engineers, USA
2016	Certified Energy Manager CEM® by the Association of Energy Engineers, USA

Current Membership in Professional Societies and Organizations: IEEE (SM) Since 2015

Honors and Awards

Institutional and Professional Services

Principal Publications/Presentations from the Past Five Years

1. Hourly Electricity Demand Response in the Stochastic Day-Ahead Scheduling of Coordinated Electricity and Natural Gas Networks Xiaping Zhang; Mohammad Shahidehpour; Ahmed Alabdulwahab; Abdullah Abusorrah IEEE Trans. on Power Systems Year: 2016, Volume: 31, Issue: 1 Pages: 592 - 601, DOI: 10.1109/TPWRS.2015.2390632.
2. Thermal Generation Flexibility With Ramping Costs and Hourly Demand Response in Stochastic Security-Constrained Scheduling of Variable Energy Sources Hongyu Wu; Mohammad Shahidehpour; Ahmed Alabdulwahab; Abdullah Abusorrah IEEE Transactions on Power Systems Year: 2015, Volume: 30, Issue: 6 Pages: 2955 - 2964, DOI: 10.1109/TPWRS.2014.2369473.
3. Bilevel Model for Analyzing Coordinated Cyber-Physical Attacks on Power Systems Zhiyi Li; Mohammad Shahidehpour; Ahmed Alabdulwahab; Abdullah Abusorrah IEEE Transactions on Smart Grid Year: 2016, Volume: 7, Issue: 5 Pages: 2260 - 2272, DOI: 10.1109/TSG.2015.2456107
4. A Game Theoretic Approach to Risk-Based Optimal Bidding Strategies for Electric Vehicle Aggregators in Electricity Markets With Variable Wind Energy Resources Hongyu Wu; Mohammad Shahidehpour; Ahmed Alabdulwahab; Abdullah Abusorrah IEEE Transactions on Sustainable Energy Year: 2016, Volume: 7, Issue: 1 Pages: 374 - 385, DOI: 10.1109/TSTE.2015.2498200
5. Optimal Expansion Planning of Energy Hub With Multiple Energy Infrastructures Xiaping Zhang; Mohammad Shahidehpour; Ahmed Alabdulwahab; Abdullah Abusorrah IEEE Transactions on Smart Grid Year: 2015, Volume: 6, Issue: 5 Pages: 2302 - 2311, DOI: 10.1109/TSG.2015.2390640
6. Stochastic Security-Constrained Scheduling of Coordinated Electricity and Natural Gas Infrastructures Ahmed Alabdulwahab; Abdullah Abusorrah; Xiaping Zhang; Mohammad Shahidehpour IEEE Systems Journal Year: 2015, Volume: PP, Issue: 99 Pages: 1 - 10, DOI: 10.1109/JSYST.2015.2423498
7. Optimal Planning of Loop-Based Microgrid Topology Liang Che; Xiaping Zhang; Mohammad Shahidehpour; Ahmed Alabdulwahab; Yusuf Al-Turki IEEE Transactions on Smart Grid Year: 2016, Volume: PP, Issue: 99 Pages: 1 - 11, DOI: 10.1109/TSG.2015.2508058
8. Generating Highly Accurate Predictions for Missing QoS Data via Aggregating Nonnegative Latent Factor Models Xin Luo; MengChu Zhou; Yunni Xia; Qingsheng Zhu; Ahmed Chiheb Ammari; Ahmed Alabdulwahab IEEE Transactions on Neural Networks and Learning Systems Year: 2016, Volume: 27, Issue: 3 Pages: 524 - 537, DOI: 10.1109/TNNLS.2015.2412037
9. Demand Response Exchange in the Stochastic Day-Ahead Scheduling With Variable Renewable Generation Hongyu Wu; Mohammad Shahidehpour; Ahmed Alabdulwahab; Abdullah Abusorrah IEEE Transactions on Sustainable Energy Year: 2015, Volume: 6, Issue: 2 Pages: 516 - 525, DOI: 10.1109/TSTE.2015.2390639
10. Optimal Interconnection Planning of Community Microgrids With Renewable Energy Sources Liang Che; Xiaping Zhang; Mohammad Shahidehpour; Ahmed Alabdulwahab; Abdullah Abusorrah IEEE Transactions on Smart Grid Year: 2015, Volume: PP, Issue: 99 Pages: 1 - 1, DOI: 10.1109/TSG.2015.2456834
11. Coordination of Interdependent Natural Gas and Electricity Infrastructures for Firming the Variability of Wind Energy in Stochastic Day-Ahead Scheduling Ahmed Alabdulwahab; Abdullah Abusorrah; Xiaping Zhang; Mohammad Shahidehpour IEEE Transactions on Sustainable Energy Year: 2015, Volume: 6, Issue: 2 Pages: 606 - 615, DOI: 10.1109/TSTE.2015.2399855
12. Reliability-Based Optimal Planning of Electricity and Natural Gas Interconnections for Multiple Energy Hubs Xiaping Zhang; Liang Che; Mohammad Shahidehpour; Ahmed S. Alabdulwahab; Abdullah Abusorrah IEEE Transactions on Smart Grid Year: 2015, Volume: PP, Issue: 99 Pages: 1 - 10, DOI: 10.1109/TSG.2015.2498166
13. Electricity-Natural Gas Operation Planning With Hourly Demand Response for Deployment of Flexible Ramp Xiaping Zhang; Liang Che; Mohammad Shahidehpour; Ahmed Alabdulwahab; Abdullah Abusorrah IEEE Trans. on Sustainable Energy Year: 2016, Volume: 7, Issue: 3 Pages: 996 - 1004, DOI: 10.1109/TSTE.2015.2511140

Recent Professional Development Activities (Workshops, Trainings etc.)

Certified Measurement & Verification Professional CMVP® by the Association of Energy Engineers,

USA Entrepreneurship train the trainer Certificate from Babson, USA

Certified Energy Manager CEM® by the Association of Energy Engineers, USA

Certificate in Design thinking by Harvard executive, USA
