Curtin University

SEARCH

STAFF PROFILE

Professor Arindam Ghosh

Position   Professor
Faculty   Faculty of Science and Engineering
School   School of Electrical Engineering and Computing
Campus   Bentley Campus
Location   314.331
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Brief Summary

Qualifications

- Ph.D., 1983, University of Calgary, Canada

- Master of Engineering, 1978, Calcutta University, India

- Bachelor of Engineering, 1975, Calcutta University, India

Research Outcomes

- Total Journal Publications: 161

- Total Conference Publications: 253

- Total Books: 2

- Total Book Chapters: 7

- Total Edited Book: 4

- Total Citations: 11250 Google Scholar

- h-index: 55 Google Scholar

- i10-index: 197 Google Scholar

- Total Research Grants: 20 (Income: AUD 7.65 M, INR 4.5 M)

- Total HDR Student Supervision: 82

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Overview

ARC Discovery Grants

1. A. Ghosh, (No. DP140103883) titled "Future Distribution Grids based on Reconfigurable Smart Microgrid Clusters" 2014-2016 ($360,000)

2. A. Ghosh and F. Zare, (No. DP110104554) titled "Innovations in Stability, Reliability and Protection of Electric Power Distribution Systems to Enable Increased use of Green Energy" 2011-2013 ($255,000)

3. A Ghosh, (No. DP0774092) titled "Operation, Control and Energy Management of Grid Connected Distributed Generation Based Microgrid" 2007-2009 ($255,000)

4. F. Zare, A. Ghosh, F. Blaabjerg and R.D. Lorenz, (No. DP0774497) titled "Low Loss Distributed Wind Generators with Reduced Electromagnetic Interference and Shaft Voltage Based on Multilevel Converters" 2007-2009 ($251,000)

ARC Linkage Grants

1. A. Ghosh, C. Nayar, S. Rajakaruna, F. Shahnia, D. Wang and S. Mathews, (No. LP140100586) titled "Parallel Operating Stand-Alone Renewable Energy Microgrids for Remote Area Power Systems," 2014-2017 ($536,000). Industry partners: Regen Power, AICA Engineering and Express Solar.

2. G. Ledwich, Z.Y. Dong, A. Ghosh, E. Palmer and J. Chow, (No. LP120100302) titled "Increased Power Transfer Capacity through Static Var Compensator (SVC) Control," 2012-2014. ($692,892). Industry partners: Powerlink Queensland, Fujian Timely Power Company and SureLand Capital Group

3. G. Ledwich, L. Buys, A. Ghosh, M. Wishart and J. Bell, (No. LP110201139) titled "Electricity Demand Side Management: Models, Optimisation and Customer Engagement" 2011-2014 ($720,000). Industry partner: Ergon Energy

4. A. Ghosh, G. Ledwich and P.J. Wolfs, (No. LP0776898) titled "Development of Reliability Driven Rural Electricity Supply" 2007-2010 ($427,000). Industry Partner: Ergon Energy

5. F. Zare, G. Ledwich, A. Ghosh and B.L. Schaffler, (No. LP0774899) titled "High Efficient and Reliable Power Converters with Low Electromagnetic Interference Based on an Intelligent Distributed Control System in Train Systems" 2007-2009. ($266,511). Industry Partner: Schaffler Associates

6. M.A. Kashem, M. Negnevitsky, G. Ledwich and A. Ghosh, (No. LP0775025) titled "On-line Monitoring and Modelling of Electric Loads

for Improving Operational Conditions of Power Systems" 2007-2009
($456,000)

ARC LIEF Grant

1. A. Ghosh, G. Ledwich, T.K. Saha, P.J. Wolfs, et al. (No. LE0883074)
   titled "Distributed Generation Evaluation Facility and Power Control"
   2008 ($1,060,000). Partners: QUT, UQ and CQU

CSIRO Cluster on Intelligent Grid

1. A Ghosh, titled "Microgrid Operation, Protection and Control." 2008-
   2010 ($159,000)

2. G. Ledwich, A. Ghosh, S. Islam and F. Zare, titled "Optimal Siting and
   Dispatch of Distributed Generators" 2008-2010 ($659,000)

Other Grants

1. B. Chaudhuri and A. Ghosh, The Royal Society International Exchange
   Scheme Grant titled "Role of Asynchronous Generation and
   Transmission Mix in Future Smart Grids" 2012-2013 (GBP 11,570)

2. Y. Mishra, A. Ghosh and G. Ledwich, Australia-India Strategic Research
   Fund (AISRF) Grant titled "Workshop on Techno Economical
   Challenges of Integrating Renewable Energy Sources on Power System
   Operations and Control" 2012 ($20,000)

3. M. Wishart, G. Ledwich and A. Ghosh, Energy Networks Association -
   Australian Strategic Technology Program (OCS) titled "SWER Line
   Capacity Improvement through Utilization of Non-Embedded Distributed
   Generation Resources." 2010 ($45,455)

4. G. Ledwich, R. Drogemuller, A. Ghosh, J. Bell and P.J. Wolfs,
   Queensland Government Smart Future Fund: National and International
   Research Alliance Program (NIRAP) project titled "A Comprehensive
   Agent-Based Model of the Electricity Grid to Support Operational and
   Infrastructure Planning of the Future Electricity Grid." 2013-2013
   ($1,947,119) Industrial Partner: Ergon Energy

Indian Research Grants

1. A. Ghosh, A grant of INR 1,500,000 obtained from Central Power
   Research Institute in 2002 for the development of active power line
   conditioners

2. A. Ghosh, A grant of INR 2,013,000 obtained from Central Board of
   Irrigation and Power in 1996 for design and development of thyristor
   controlled series compensators for subsynchronous resonance
   mitigation

3. A. Ghosh, A grant of INR 1,000,000 obtained from Ministry of Human Resources Development, Government of India, in 1987 to set up a control systems laboratory.

HDR Student Supervision

- 25 PhD students graduated

- 33 Master by Research students graduated

- 8 PhD students currently under supervision

Graduated PhD Students

M. Goyal	Curtin	2016	Reliability Improvement of Autonomous Microgrids through Interconnection and Storage
H. Sagha	QUT	2015	Development of Innovative Robust Stability Enhancement Algorithms for Distribution Systems Containing Distributed Generators
M. Dargahi	QUT	2015	Stability Analysis and Implementation of Power-Hardware-in-the-Loop for Power System Testing
S. Mazumder	QUT	2015	Power Quality Improvements in Low Voltage Distribution Networks Containing Distributed Energy Resources
G. Mokhtari	QUT	2014	Planning and Operation of Active Residential Feeder to Increase the Penetration Level of Small Scale Generation
N. Ghasemi	QUT	2013	Power Electronics Converters for High Power Ultrasound Systems
A. Vahidnia	QUT	2013	Wide Area Control through Aggregation of Power Systems
P. Davari	QUT	2013	High Frequency High Power Converters for Industrial Applications
M. Marwan	QUT	2013	Smart Grid – Demand Side Response Model to Mitigate Prices and Peak Impact on the Electrical System
I. Ziari	QUT	2011	Planning of Distribution Networks for MV and LV
Farhad Shahnia	QUT	2011	Analysis and Correction of Voltage Profile in Low Voltage Distribution Networks Containing Photovoltaic Cells and Electric Vehicles
S. Zabihi	QUT	2011	Flexible High Voltage Power Supply for Plasma Applications
R. Majumder	QUT	2010	Modeling, Stability Analysis and Control of Microgrid (thesis submitted)
A. A. Boora	QUT	2010	Flexible High-Power Multi DC-DC Converters for Tran Systems (thesis submitted)
A. Nami	QUT	2010	A New Multilevel Converter Configuration for High Power and High Quality Applications (thesis submitted)
R. Agha Zadeh	QUT	2010	Performance Control of Distributed Generation Sources Using Digital Estimation of Signal Parameters.
J. A. Firouzaee	QUT	2010	High Frequency Modelling of Power Electronic & Motor Drive Systems EMI Analysis
J. M. Dewasdassa	QUT	2010	Protection of Micro-grid Containing Inertial and Non-inertial Distributed Resources
A. Shukla	IIT/K	2008	Modulation and Control of Diode-clamped and Flying Capacitor Multilevel Converters for Power System Compensation Applications
R. Gupta	IIT/K	2007	Characterization and Design of Inverter Switching Control for Distribution System Compensation
D. Chatterjee	IIT/K	2007	Transient Stability Assessment of Power Systems Containing FACTS Controllers Through Trajectory Sensitivity
A. K. Jindal	IIT/K	2006	Distribution Bus Voltage Regulation using Power Compensating Devices
R. K. Singh	IIT/K	2002	Modeling and Control of Conventional and Modified Buck-Boost, DC-DC Converter.
M. K. Mishra	IIT/K	2002	Load Compensation and Voltage Regulation of Distribution System using DSTATCOM.
G. N. Pillai	IIT/K	2001	Torsional Interaction Studies on an SSSC compensated Power System.
N. K. Sharma	IIT/K	2000	A Novel Placement Strategy for FACTS Devices in Multimachine Power System.
K. K. Mahapatra	IIT/K	1999	Active Harmonic Current Compensation Using Hard and Soft Switched Inverters.
S. V. Jayaram Kumar	IIT/K	1999	Control of Subsynchronous Resonance Using FACTS Devices.
B. Das	IIT/K	1997	Application of Converter Based Controllers to Electric Power Transmission Systems.
R. K. Pandey	IIT/K	1992	A Discrete-Time HVDC System Model for Stability Analysis and Self-Tuning Control.

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Memberships, Awards and Training

Fellowships

- Fellow, Institute of Electrical and Electronics Engineers (IEEE), 2006

- Fellow Indian Academy of Engineering (INAE), 2005

- Fellow, Institute of Engineers of India, 2004

Awards

- IEEE Distinguished Lecturer from 2014

- Award for Outstanding Contribution to Research, Faculty of Built Environment and Engineering, Queensland University of Technology, Dec. 2007

- Fulbright Scholarship from the Department of State, Government of United States, University of Illinois at Urbana-Champaign, 2003

- The President of India Medal (English) by the Institution of Engineers (India), 2000

- The Union Ministry of Energy: Department of Power Medal in 2000 by the Institution of Engineers (India), 1999

Membership Editorial Boards

- Electric Power Systems Research, 2007 – continuing

- Electric Power Components and Systems, 2009 – 2012

- Journal of Institute of Electronic and Telecommunication Engineers India 1986 – 1991

Conference Organization

- Technical Program Chair of the 21st Australasian Universities Power Engineering Conference (AUPEC), Brisbane, Sept. 2011

- Program Chairman and Technical Activities Chairman of the 9th National Power System Conference, IIT Kanpur, Dec. 1996

Tutorials

1. A. Ghosh, *Distributed Generation – Control and Protection*, *3rd International Conference on Power Systems*, IIT Kharagpur, December, 2009

2. G. Ledwich and A. Ghosh, *Wide are measurements and their use for analysis and control*, *14th National Power Systems Conference*, IIT Roorkee, December, 2006

3. A. Ghosh and G. Ledwich, *Application of Power Electronics to Power Distribution System*, IEEE Tutorial Course - *IEEE Power Engineering Society, IEEE-PES General Meeting*, San Francisco, June, 2005

Keynote Address

- A. Ghosh, *Future Distribution Grids*, *17th National Power Systems Conference*, Varanasi, India, 2012

- A. Ghosh, *Microgrid Operation and Control*, *Emerging Trends in Electrical Engineering*, Science City Complex, Calcutta, Dec. 2006

- A. Ghosh, *Power converters and their applications*, Presented at *2nd National Power Electronics Conference*, IIT Kharagpur, Dec. 2005

- A. Ghosh, *Custom Power Technology*, *IEEE-India Conference*, Indicon, IIT Kharagpur, 2004

Lecture Series

- A. Ghosh, *FACTS and Custom Power Technology*, Department of Electrical Engineering, University of Seville, 2005.

- A. Ghosh, *Power Electronics Applications in Power Systems*, Grainger Lecture Series at the University of Illinois at Urbana-Champaign in cooperation with the Power Systems Engineering Research Center, University of Wisconsin at Madison, 2003.

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Employment History

Continuing Appointments

- Curtin University, Perth, Australia, Professor (Dec. 2013 to date)

- Queensland University of Technology (QUT), Brisbane, Australia, Professor (May 2006 to Dec. 2013)

- Indian Institute of Technology, Kanpur, India, Professor (March 1991 to May 2006), Assistant Professor, (August 1985 to March 1991)

Visiting Appointments

- Universidad de Sevilla, Spain, Distinguished Professor (May 2005)

- University of Illinois at Urbana-Champaign, USA, Visiting Fulbright Scholar (May to July 2003)

- Queensland University of Technology, Brisbane, Australia, Visiting Professor (July 1999 to June 2000)

- University of Queensland, Brisbane, Australia, Senior Lecturer (July 1993 to June 1994)

- Nanyang Technological University, Singapore, Senior Teaching Fellow (June 1992 to May 1993)

Adjunct Professor

- Queensland University of Technology (QUT), Brisbane, Australia, (Dec. 2013 to date)

- Charles Darwin University, Darwin, Northern Territories, Australia, (2007-2010)

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Research Interests

- Micro Grids

- Smart Grids

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Specialty Areas

- FACTS and Custom Power Devices

- Distributed Generation and Utilization of Renewable Energy Resources

- Application and Control of Power Electronics in Transmission and Distribution Networks

Publications   Back to top

2017

Journal Articles (Research)

- Pashajavid, E., F. Shahnia, and A. Ghosh. 2017. "Provisional internal and external power exchange to support remote sustainable microgrids in the course of power deficiency." *IET GENERATION TRANSMISSION & DISTRIBUTION* 11 (1): 246-260.

- Barbieri, F., S. Rajakaruna, and A. Ghosh. 2017. "Very short-term photovoltaic power forecasting with cloud modeling: A review." *Renewable and Sustainable Energy Reviews* 75: 242-263.

- Pashajavid, E., F. Shahnia, and A. Ghosh. 2017. "Development of a self-healing strategy to enhance the overloading resilience of islanded microgrids." *IEEE Transactions on Smart Grid* PP (99): 868-880.

- Ghasemi, N., F. Zare, P. Davari, M. Vilathgamuwa, A. Ghosh, C. Langton, and P. Weber. 2017. "Dissimilar trend of nonlinearity in ultrasound transducers and systems at resonance and non-resonance frequencies." *Ultrasonics* 74: 21-29.

- Hosseinimehr, T., A. Ghosh, and F. Shahnia. 2017. "Cooperative control of battery energy storage systems in microgrids." *International Journal of Electrical Power and Energy Systems* 87: 109-120.

2016

Journal Articles (Research)

- Goyal, M., Y. Fan, A. Ghosh, and F. Shahnia. 2016. "Techniques for a Wind Energy System Integration with an Islanded Microgrid." *International Journal of Emerging Electric Power Systems* 17 (2): 191-203.

- Shahnia, F., and A. Ghosh. 2016. "Coupling of neighbouring low voltage residential distribution feeders for voltage profile improvement using power electronics converters." *IET Generation, Transmission and Distribution* 10 (2): 535-547.

- Goyal, M., and A. Ghosh. 2016. "Microgrids interconnection to support mutually during any contingency." *Sustainable Energy, Grids and Networks* 6: 100-108.

- Shahnia, F., S. M. Ami, and A. Ghosh. 2016. "Circulating the reverse flowing surplus power generated by single-phase DERs among the three phases of the distribution lines." *International Journal of Electrical Power and Energy Systems* 76: 90-106.

Conference Articles (Research)

- Goyal, M., B. John, and A. Ghosh. 2016. "Harmonic mitigation in an islanded microgrid using a DSTATCOM." In *Power and Energy Engineering Conference (APPEEC), 2015 IEEE PES Asia-Pacific*, Nov 15, 2015, Brisbane, QLD, Australia: IEEE.

- Konar, S., and A. Ghosh. 2016. "Interconnection of islanded DC microgrids." In *Asia-Pacific Power and Energy Engineering Conference, APPEEC*, Nov 15, 2016, Brisbane, QLD, Australia

- Barbieri, F., C. Rifflart, B. T. Vo, S. Rajakaruna, and A. Ghosh. 2016. "A Comparative Study of Clear-Sky Irradiance Models for Western Australia." In *2016 IEEE Power and Energy Society General Meeting*, Jul 17, 2016, Boston, USA

- Ashourpouri, A., S. Rajakaruna, and A. Ghosh. 2016. "Demand Dispatch through Appliance Management Unit in a Semi-Smart Home." In *Industrial Electronics Conference IEEE IECON2016*, Oct 24, 2016, Florence, Italy

- Fan, Y., and A. Ghosh. 2016. "Voltage control strategies for offshore wind power collection systems upon faults." In *Power and Energy Society General Meeting*, Jul 17, 2016, Boston, MA, USA: IEEE.

- Pashajavid, E., and A. Ghosh. 2016. "A fully decentralized approach for mitigating destructive disturbances in isolating process of remote coupled microgrids." In *Australasian Universities Power Engineering Conference, AUPEC 2016*, Sep 25, 2016, Brisbane, QLD, Australia

2015

Journal Articles (Research)

- Chandrasena, R., F. Shahnia, S. Rajakaruna, and A. Ghosh. 2015. "Dynamic operation and control of a hybrid nanogrid system for future community houses." *IET Generation Transmission and Distribution* 9 (11): 1168-1178.

- Setiawan, M., F. Shahnia, S. Rajakaruna, and A. Ghosh. 2015. "ZigBee-based communication system for data transfer within future microgrids." *IEEE Transactions on Smart Grid* 6 (5): 2343-2355.

- Mokhtari, G., G. Nourbakhsh, G. Ledwich, and A. Ghosh. 2015. "A Supervisory Load-Leveling Approach to Improve the Voltage Profile in Distribution Network." *IEEE Transactions on Sustainable Energy* 6 (1): 245-252.

Conference Articles (Research)

- Pashajavid, E., F. Shahnia, and A. Ghosh. 2015. "Overload management of autonomous microgrids." In *2015 IEEE 11th International Conference on Power Electronics and Drive Systems*, Jun 9, 2015, Sydney, Australia

- Pashajavid, E., F. Shahnia, and A. Ghosh. 2015. "Overloading conditions management in remote networks by coupling neighboring microgrids." In *2015 50th International Universities Power Engineering Conference (UPEC)*, Sep 1, 2015, Stoke-on-Trent, United Kingdom

- Pashajavid, E., F. Shahnia, and A. Ghosh. 2015. "A decentralized strategy to remedy the power deficiency in remote area microgrids." In *2015 50th International Universities Power Engineering Conference (UPEC)*, Sep 1, 2015, Stoke-on-Trent, United Kingdom: IEEE.

2014

Books - Edited

- Rajakaruna, S., F. Shahnia, and A. Ghosh. ed. 2014. *"Plug In Electric Vehicles in Smart Grids: Charging Strategies."* Singapore: Springer.

- Rajakaruna, S., F. Shahnia, and A. Ghosh. ed. 2014. *"Plug In Electric Vehicles in Smart Grids: Energy Management."* Singapore: Springer.

- Rajakaruna, S., F. Shahnia, and A. Ghosh. ed. 2014. *"Plug In Electric*

Vehicles in Smart Grids: Integration Techniques." Singapore: Springer.

- Shahnia, F., S. Rajakaruna, and A. Ghosh. ed. 2014. *"Static Compensator (STATCOMs) in Power Systems."* Singapore: Springer.

Book Chapters (Research)

- Shahnia, F., P. Wolfs, and A. Ghosh. 2014. "Smart inter-phase switching of residential loads in low voltage distribution feeders.", 329-354

- Shahnia, F., M. T. Wishart, and A. Ghosh. 2014. "On-line demand management of low voltage residential distribution networks in smart grids.", 293-328

- Shahnia, F., and A. Ghosh. 2014. "Applications of Power Electronic Devices in Distribution Systems." In *Transient Analysis of Power Systems: Solution Techniques, Tools and Applications*, 248-279 USA: Wiley-IEEE Press.

- Shahnia, F., M. T. Wishart, and A. Ghosh. 2014. "On-line Demand Management of Low Voltage Residential Distribution Networks in Smart Grids." In *Computational Intelligence for Decision Support in Cyber-Physical Systems*, 293-328 Singapore: Springer.

- Shahnia, F., P. Wolfs, and A. Ghosh. 2014. "Smart Inter-Phase Switching of Residential Loads in Low Voltage Distribution Feeders." In *Computational Intelligence for Decision Support in Cyber-Physical Systems*, 329-354 Singapore: Springer.

- Shahnia, F., and A. Ghosh. 2014. "High Penetration of Rooftop Photovoltaic Cells in Low Voltage Distribution Networks: Voltage Imbalance and Improvement." In *Renewable Energy Integration, Challenges and Solutions*, 69-95 Singapore: Springer.

- Shahnia, F., R. Chandrasensa, S. Rajakaruna, and A. Ghosh. 2014. "Interconnected autonomous microgrids in smart grids with self-healing capability." In *Renewable Energy Integration, Challenges and Solutions*, 347-381 Singapore: Springer.

Journal Articles (Research)

- Shahnia, F., P. J. Wolfs, and A. Ghosh. 2014. "Voltage Unbalance Reduction in Low Voltage Feeders by Dynamic Switching of Residential Customers Among Three Phases." *IEEE Transactions on Smart Grid* 5 (3): 1318-1327.

- Shahnia, F., A. Ghosh, G. Ledwich, and F. Zare. 2014. "Voltage unbalance improvement in low voltage residential feeders with rooftop PVs using custom power devices." *International Journal of Electrical Power and Energy Systems* 55: 362-377.

- Vahidnia, A., G. Ledwich, E. Palmer, and A. Ghosh. 2014. "Identification and estimation of equivalent area parameters using synchronised phasor measurements." *IET Generation Transmission and Distribution* 8 (4): 697-704.

- Dargahi, M., G. Ledwich, A. Ghosh, and P. Davari. 2014. "Controlling current and voltage type interfaces in power-hardware-in-the-loop simulations." *IET Power Electronics* 7 (10): 2618-2627.

- Shahnia, F., R. P. S. Chandrasena, A. Ghosh, and S. Rajakaruna. 2014. "Application of DSTATCOM for surplus power circulation in MV and LVdistribution networks with single-phase distributed energy resources." *Electric Power Systems Research* 117: 104-114.

- Marwan, M., G. Ledwich, and A. Ghosh. 2014. "Demand-side response model to avoid spike of electricity price." *Journal of Process Control* 24: 782-789.

- Shahnia, F., R. P. S. Chandrasena, S. Rajakaruna, and A. Ghosh. 2014. "Primary control level of parallel distributed energy resources converters in system of multiple interconnected autonomous microgrids within self-healing networks." *IET Generation, Transmission and Distribution* 8 (2): 203-222.

- Mokhtari, G., G. Nourbakhsh, F. Zare, and A. Ghosh. 2014. "Improving the penetration level of PVs using DC link for residential buildings." *Energy and Buildings* 72: 80-86.

Conference Articles (Research)

- Hosseinimehr, T., F. Shahnia, R. P. S. Chandrasena, and A. Ghosh. 2014. "Different Power Sharing Techniques for Converter-Interfaced DERs in an Autonomous Microgrid." In *6th IEEE PES Asia-Pacific Power and Energy Engineering Conference (APPEEC 2014)*, Dec 7, 2014, Hong Kong: Institute of Electrical and Electronics Engineers (IEEE).

- Setiawan, M. A., F. Shahnia, R. P. S. Chandrasena, and A. Ghosh. 2014. "Data Communication Network and its Delay Effect on the Dynamic Operation of Distributed Generation Units in a Microgrid." In *6th IEEE PES Asia-Pacific Power and Energy Engineering Conference (APPEEC 2014)*, Dec 7, 2014, Hong Kong: Institute of Electrical and Electronics Engineers (IEEE).

- Goyal, M., A. Ghosh, and F. Shahnia. 2014. "Distributed Battery Storage Units for Overload Prevention in an Islanded Microgrid." In *Australasian Universities Power Engineering Conference: AUPEC 2014: Smart Power for Everyone*, Sep 28, 2014, Curtin University, Perth, Australia: IEEE.

- Chandrasena, R. P. S., F. Shahnia, A. Ghosh, and S. Rajakaruna. 2014. "Operation and Control of a Hybrid AC-DC Nanogrid for Future Community Houses." In *Australasian Universities Power Engineering Conference: AUPEC 2014: Smart Power for Everyone*, Sep 28, 2014, Curtin University, Perth, Australia: IEEE.

- Fan, Y., M. Goyal, A. Ghosh, and F. Shahnia. 2014. "Integration of Wind Energy Conversion System with Microgrid and Utility." In *Australasian Universities Power Engineering Conference: AUPEC 2014: Smart Power for Everyone*, Sep 28, 2014, Curtin University, Perth, Australia: IEEE.

- Chandrasena, R. P. S., F. Shahnia, A. Ghosh, and S. Rajakaruna. 2014. "Secondary Control in Microgrids for Dynamic Power Sharing and Voltage/Frequency Adjustment." In *Australasian Universities Power Engineering Conference: AUPEC 2014: Smart Power for Everyone*, Sep 28, 2014, Curtin University, Perth, Australia: IEEE.

- Setiawan, M. A., F. Shahnia, A. Ghosh, and S. Rajakaruna. 2014. "Developing the ZigBee Based Data Payload Coding for Data Communication in Microgrids." In *Australasian Universities Power Engineering Conference: AUPEC 2014: Smart Power for Everyone*, Sep 28, 2014, Curtin University, Perth, Australia: IEEE.

- Setiawan, M. A., F. Shahnia, A. Ghosh, and S. Rajakaruna. 2014. "Proposing a New Algorithm for Defining the Shortest Distance among ZigBee-Based Communication Devices in Microgrids." In *Australasian Universities Power Engineering Conference: AUPEC 2014: Smart Power for Everyone*, Sep 28, 2014, Curtin University, Perth, Australia: IEEE.

- Susanto, J., F. Shahnia, A. Ghosh, and S. Rajakaruna. 2014. "Interconnected Microgrids via Back-to-Back Converters for Dynamic Frequency Support." In *Australasian Universities Power Engineering Conference: AUPEC 2014: Smart Power for Everyone*, Sep 28, 2014, Curtin University, Perth, Australia: IEEE.

2013

Journal Articles (Research)

- Ziari, I., G. Ledwich, A. Ghosh, and G. Platt. 2013. "Optimal Distribution Network Reinforcement Considering Load Growth, Line Loss, and Reliability." *IEEE Transactions on Power Systems* 28 (2): 587-597.

- Mokhtari, G., G. Nourbakhsh, and A. Ghosh. 2013. "Smart Coordination of Energy Storage Units (ESUs) for Voltage and Loading Management in Distribution Networks." *IEEE Transactions on Power Systems* 28 (4): 4812-4820.

- Ghosh, A., and V. Kumar.. "Computational studies on fragmentation of brittle materials." *Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science* 227 Inpress.

- Shahnia, F., A. Ghosh, G. Ledwich, and F. Zare. 2013. "Predicting Voltage Unbalance Impacts of Plug-in Electric Vehicles Penetration in Residential Low-voltage Distribution Networks." *Electric Power Components and Systems* 41 (16): 1594-1616.

- Ziari, I., G. Ledwich, and A. Ghosh. 2013. "A new technique for optimal allocation and sizing of capacitors and setting of LTC." *Electrical Power and Energy Systems* 46 (1): 250-257.

- Mokhtari, G., A. Ghosh, G. Nourbakhsh, and G. Ledwich. 2013. "Smart Robust Resources Control in LV Network to Deal With Voltage Rise Issue." *IEEE Transactions on Sustainable Energy* 4 (4): 1043-1050.

- Mokhtari, G., G. Nourbakhsh, F. Zare, and A. Ghosh. 2013. "Overvoltage prevention in LV smart grid using customer resources coordination." *Energy and Buildings* 61: 387-395.

- Vahidnia, A., G. Ledwich, E. Palmer, and A. Ghosh. 2013. "Dynamic equivalent state estimation for multi-area power systems with synchronized phasor measurement units." *Electric Power Systems Research* 96: 170-176.

- Mazumder, S., A. Ghosh, and F. Zare. 2013. "Improving Power Quality in Low-Voltage Networks Containing Distributed Energy Resources." *International Journal of Emerging Electric Power Systems* 14 (1): 67-78.

- Majumder, R., S. Chakrabarti, G. Ledwich, and A. Ghosh. 2013. "Advanced Battery Storage Control for an Autonomous Microgrid." *Electric Power Components and Systems* 41 (2): 157-181.

Conference Articles (Research)

- Mokhtari, G., G. Nourbakhsh, and A. Ghosh. 2013. "Load leveling in LV network using coordianted Energy Storage Units." In *2013 Australasian Universities Power Engineering Conference, AUPEC 2013*, Sep 29, 2013, Hobart, Tasmania: IEEE.

- Chandrasena, R. P. S., F. Shahnia, S. Rajakaruna, and A. Ghosh. 2013. "Operation and Control of Three Phase Microgrids Consisting of Single-Phase DERs." In *2013 IEEE 8th International Conference on Industrial and Information Systems (ICIIS 2013)*, Dec 17, 2013, Kandy, Sri Lanka: IEEE.

- Shahnia, F., R. P. S. Chandrasena, S. Rajakaruna, and A. Ghosh. 2013. "Autonomous Operation of Multiple Interconnected Microgrids with Self-Healing Capability." In *2013 IEEE Power & Energy Society*

General Meeting (PES), Jul 21, 2014, Vancouver, Canada: IEEE.

- Shahnia, F., P. Wolfs, and A. Ghosh. 2013. "Voltage Unbalance Reduction in Low Voltage Feeders by Dynamic Switching of Residential Customers among Three Phases." In *2013 IEEE Power & Energy Society General Meeting (PES)*, Jul 21, 2013, Vancouver, BC, Canada: IEEE.

- Chandrasena, R. P. S., F. Shahnia, S. Rajakaruna, and A. Ghosh. 2013. "Control, Operation and Power Sharing among Parallel Converter-Interfaced DERs in a Microgrid in the Presence of Unbalanced and Harmonic Loads." In *2013 Australasian Universities Power Engineering Conference*, Sep 29, 2013, Hobart, Tasmania, Australia: University of Tasmania.

- Shahnia, F., and A. Ghosh. 2013. "Decentralized Voltage Support in a Low Voltage Feeder by Droop based Voltage Controlled PVs." In *2013 Australasian Universities Power Engineering Conference*, Sep 29, 2013, Hobart, Tasmania, Australia: University of Tasmania.

- Shahnia, F., M. T. Wishart, and A. Ghosh. 2013. "Voltage regulation, power balancing and battery storage discharge control by smart demand side management and multi-objective decision making." In *2013 Australasian Universities Power Engineering Conference*, Sep 29, 2013, Hobart, Tasmania, Australia: University of Tasmania.

- Mazumder, S., A. Ghosh, and F. Zare. 2013. "Voltage Quality Improvement in Distribution Networks Containing DERs using UPQC." In *IEEE Power and Energy Society General Meeting*, Jul 21, 2013, Canada: Institute of Electrical and Electronics Engineers (IEEE).

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