
Dr. Ahmed Bilal Awan

ahmad_bilal_uet@yahoo.com
a.awan@mu.edu.sa
+966-553635304

[Electrical Engineering Department,](#)
[College of Engineering,](#)
[Majmaah University, Saudi Arabia.](#)



Education:

Qualification	University	Year
PhD Electrical Engineering	National Polytechnic Institute of Lorraine)- University of Lorraine, Nancy, France	2007~2011
Thesis Title: Stability Investigation of Distributed Power Systems		
MS Electrical Engineering	SUPELEC (Ecole Supérieur de Electricité) Gif Campus, Paris, France	2006~2007
Thesis Title: Stability Analysis of Cascade DC–DC Converters with Input Filter		
BE Electrical Engineering	University of Engineering and Technology Lahore, Pakistan	2001~2004
Project Title: Design of Protection Scheme of 500 kV Transmission Line at Rewat, Pakistan		

Experience:

Feb 2014 ~ Till now	Majmaah University, Saudi Arabia Undergraduate Courses: High Voltage Engineering Systems, Power Systems Protection, Power Electronics, Automatic Control Systems, Power Distribution Planning, Fundamentals of Electrical Power Systems, Electric Machines-2, Electrical Instrumentation and Measurement, Electrical Measurements & Control Lab, Machine Lab, Electronic Devices Member: Senior Design Committee, College of Engineering Member: Research and Development Committee, College of Engineering Coordinator: Senior Design Committee, Electrical Engineering Department Coordinator: Research and Community Services Committee, Electrical Engineering Department Member: Lab Development Committee, Electrical Engineering Department Member: Quality Assurance Committee, Electrical Engineering Department Research Project: Majmaah University 2015, Majmaah University 2017, Majmaah University 2018	Assistant Professor
Mar 2012 ~ Feb 2014	COMSATS Institute of Information Technology (CIIT), Pakistan Masters Courses: Advanced Power Electronics, High Voltage DC Transmission Undergraduate Courses: Automatic Control Systems, Power Electronics MS Students: Supervised eight MS students PhD Students: Supervised two PhD students	Assistant Professor
Feb 2012 ~ June 2012	National University of Science and Technology (NUST), Pakistan Undergraduate Courses: Automatic Control Systems	Assistant Professor (Visiting)
Dec 2007 ~ Dec 2011	ENSEM (National School of Electrical and Mechanical Engineering), France	Research Scholar
Mar 2005 ~ Mar 2006	The University of Faisalabad, Faisalabad, Pakistan Undergraduate Courses: Control Systems, Electronics, Circuit Analysis, Machines	Lecturer

Research Interests:

Renewable Energy, Distributed Power Generation, Stability Investigation of Distributed Power Systems, Energy optimization in Building, Net Zero Energy Buildings, Sustainable Cities.

Programming Languages: LabVIEW, C/C++, Microsoft Visual C#, Assembly and C of Intel MCS-51 series Microcontrollers, C language of AVR microcontroller, Assembly & C language of PIC microcontroller

Engineering software: Sketchup, EnergyPlus (NERL), HOMER, System Advisor Model (SAM NERL), Origin, Matlab, Simulink, PSpice,

Awards:

- Distinguish instructor award for the academic year (2017-2018) in recognition of distinguished contribution to Electrical Engineering Department
 - Certificate for Exceptional work in ABET Accreditation, Majmaah University
 - Certificate for exceptional work in community services, Majmaah University
 - Distinguish Senior Design supervisor award, Majmaah University
 - Won merit scholarship for MS leading to PhD from a joint program of French Government and Higher Education Commission of Pakistan
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Workshops Presentations:

1. Ahmed-Bilal AWAN, “Stability Analysis of Electrical System with Input LC Filter”, Annual convention of Ecole Doctorale, Informatique Automatique Electronique Electrotechnique Mathématique (IAEM), June 15, 2009, Lorraine, France
 2. Ahmed-Bilal AWAN, “Basic Stability Approach for a system with Input Filter”, Poster presentation at Doctoriales de Lorraine, Nancy University, France, May 17, 2010
 3. HOMER, College of Engineering, Majmaah University
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Senior Design Advisor (Undergraduate):

- Design and implementation of Energy Efficient Buildings
 - Design and implementation of solar PV self-cleaning system
 - Design of a wind powered car
 - Design and Implementation of a dual axis sun tracking system for solar PV installation
 - Design and implementation of a solar PV system for a small home
 - Design and Implementation of Concentrated Solar Power PID Controlled Parabolic Dish
 - Design a back-to-back converter for wind power application
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Research Funding:

Majmaah University **2015:** Feasibility of Technical Potential and Calculation of Payback Period of Rooftop Solar PV Syatems in the City of Majmaah, Province of Riyadh, K.S.A.

Majmaah University **2017:** Solar Photovoltaic based electrical power generation potential of the Kingdom of Saudi Arabia.

Majmaah University **2018:** Rooftop Photovoltaic potential and energy saving due to shedding effect from PV panels on residential, commercial and government buildings in the Kingdom of Saudi Arabia.

Science Citation Indexed Journals Publications: (Impact Factor: 51.686)

- 18 Naveed Ahmed Khan, Guftaar Ahmed Sardar Sidhu, **Ahmed Bilal Awan**, Zain Ali, Anzar Mahmood, Modeling and Operation Optimization of RE Integrated Micro-grids considering Economic, Energy, and Environmental Aspects, International Journal of Energy Research, **Accepted**, April 2019 (**Impact Factor 3.009**)
- 17 **Ahmed Bilal Awan**, Optimization and Techno-economic Assessment of Rooftop Photovoltaic System, Journal of Renewable and Sustainable Energy, **Accepted** 2019 (**Impact Factor 1.337**)

- 16 **Ahmed Bilal Awan**, Muhammad Zubair, Praveen R.P., Abdul Rauf Bhatti, Design and comparative analysis of photovoltaic and parabolic trough based CSP plants, Solar Energy, 183 pages 551–565, 2019 (**Impact Factor 4.374**) [10.1016/j.solener.2019.03.037](https://doi.org/10.1016/j.solener.2019.03.037)
 - 15 **Ahmed Bilal Awan**, Performance analysis and optimization of a hybrid renewable energy system for sustainable NEOM city in Saudi Arabia, Journal of Renewable and Sustainable Energy, pages 025905-1-18, 11, March 2019 (**Impact Factor 1.337**) [10.1063/1.5071449](https://doi.org/10.1063/1.5071449)
 - 14 Abdul Rauf Bhatti, Zainal Salam, Beenish Sultana, Nadia Rasheed, **Ahmed Bilal Awan**, Umbrin Sultana, Muhammad Younas, Optimized sizing of photovoltaic-grid-connected electric vehicle charging system using particle swarm optimization, International Journal of Energy Research, pages 500-522, 43, January 2019 (**Impact Factor 3.009**) [10.1002/er.4287](https://doi.org/10.1002/er.4287)
 - 13 **Ahmed Bilal Awan**, Muhammad Zubair, Abdul Rauf Bhatti, Performance analysis of various hybrid renewable energy systems using battery, hydrogen, pumped hydro-based storage units, International Journal of Energy Research, pages 1-26, Special Issue, December, 2018 (**Impact Factor 3.009**) [10.1002/er.4343](https://doi.org/10.1002/er.4343)
 - 12 Muhammad Zubair, **Ahmed Bilal Awan**, Abdullah Al-Ahmadi, Ahmed G. Abo-Khalil, NPC based Design Optimization for a Net Zero Office Building in Hot Climates with PV Panels as Shading Device, Energies, 11(1391) Pages 1-21, May 2018. (**Impact Factor 2.676**) [10.3390/en11061391](https://doi.org/10.3390/en11061391)
 - 11 Muhammad Zubair, **Ahmed Bilal Awan**, Praveen R.P., Analysis of PV Arrays Efficiency for Reduction of Building Cooling Load in Hot Climates, Building Services Engineering Research and Technology, pages 1-16, 39, May 2018, (**Impact Factor 1.100**) [10.1177/0143624418780633](https://doi.org/10.1177/0143624418780633)
 - 10 **Ahmed Bilal Awan**, Muhammad Zubair, Praveen R.P., Solar Energy Resource Analysis and Evaluation of Photovoltaic System Performance in Various Regions of Saudi Arabia, Sustainability, 10(1129), Pages 1-27, 2018 (**Impact factor 2.075**) [10.3390/su10041129](https://doi.org/10.3390/su10041129)
 - 9 Praveen R.P, **Ahmed Bilal Awan**, Muhammad Zubair, Design, Performance Analysis and Optimization of a Parabolic Trough based Concentrated Solar Power Plant for Feasible locations in the Middle East Region, Energies, 11(741) March 2018 (**Impact Factor 2.676**) [10.3390/en11040741](https://doi.org/10.3390/en11040741)
 - 8 Ahmed G. Abu-Khalil, **Ahmed Bilal Awan**, Abdel-Rahman Al-Qawasmi, Comparative Study of Passive and Active Islanding Detection Methods for PV Grid-Connected Systems, Sustainability, 10 (1798), May 2018 (**Impact Factor 2.075**) [10.3390/su10061798](https://doi.org/10.3390/su10061798)
 - 7 Amna Malik, Zain Ali, **Ahmed Bilal Awan**, Guftaar ahmad Sardar Sidhu Achieving Cost Minimization and Fairness in Multi-Supplier Smart Grid Environment, Energies, 11 (1367), 2018 (**Impact Factor 2.676**) [10.3390/en11061367](https://doi.org/10.3390/en11061367)
 - 6 **Ahmed Bilal Awan**, Renewable Energy: A Solution to Hazardous Emission, Journal of Energy and Natural Resources, Volume 5, Issue 1-1, Pages 6-12, 2016
 - 5 **Ahmed Bilal Awan**, Feasibility of Technical Potential and Calculation of Payback Period of Roof-Top Solar PV Syatems in the City of Majmaah, Province of Riyadh, K.S.A, Journal of Energy and Natural Resources, Volume 5, Issue 1-1, Pages 12-18, 2016
 - 4 Naveed Ahmed Khan, **Ahmed Bilal Awan**, Anzar Mahmood, Sohail Razzaq, Adnan Zafar, Guftaar Ahmed Sardar Sidhu, Combined emission economic dispatch of power system including solar photo voltaic generation, Energy Conversion and Management, 92, Pages 82-91, March 2015 (**Impact Factor 6.377**) [10.1016/j.enconman.2014.12.029](https://doi.org/10.1016/j.enconman.2014.12.029)
 - 3 **Ahmed Bilal Awan**, Zeeshan Ali Khan, Recent progress in renewable energy – Remedy of energy crises in Pakistan, Renewable and Sustainable Energy Reviews, Pages 236-253, 33, May 2014 (**Impact Factor 9.184**) [10.1016/j.rser.2014.01.089](https://doi.org/10.1016/j.rser.2014.01.089)
 - 2 Kamran Hafeez, **Ahmed Bilal Awan**, A modern business approach by using Geographic Information Systems as a decision tool for the Logistics of oranges to the Peshawar City markets in winter season, J. Basic. Appl. Sci. Res., 3(9), Pages 445-449, 2013
 - 1 **Ahmed-Bilal Awan**, P. Liutanakul, Serge pierpederici, Babak Nahid-Mobarakeh, Farid Meibody-tabar, Linear Stabilisation of DC-Bus supplying a Canstant Power Load, IEEE Trans. Power Electronics, 25, Pages 475 – 488, Feb. 2010 (**Impact Factor 6.812**) [10.1109/TPEL.2009.2025274](https://doi.org/10.1109/TPEL.2009.2025274)
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Conferences:

- **Ahmed-Bilal Awan**, “Comparative Analysis of 100 MW Concentrated Solar Power Plant and Photovoltaic Plant”, AIP *5th International Conference on Energy, Environment and Sustainable Development 2018 (EESD2018)*, November 14-16, 2018, Jamshoro, Pakistan.
- **Ahmed-Bilal Awan**, Serge Pierfederici, Babak Nahid-Mobarakeh, Farid Meibody-Tabar, “Energetic impedances: Application to large signal stability analysis of DC power systems”, *IEEE Transportation Electrification Conference*, June 18-20, 2012, pp. 1-6, Dearborn, USA.
- **Ahmed-Bilal Awan**, Babak Nahid-Mobarakeh, Serge Pierfederici, Farid Meibody-Tabar, “Nonlinear Stabilization of a DC-Bus Supplying a constant Power Load”, *IEEE Industry Application Society (IAS)*, October 4-8, 2009, Houston, Texas, USA.
- **Ahmed-Bilal Awan**, Serge Pierfederici, Babak Nahid-Mobarakeh, Farid Meibody-Tabar, “Active Stabilization of a Poorly Damped Filter Supplying a Constant Power Load” , *IEEE Energy Conversion Congress and Exposition (ECCE)*, September 20-24, 2009, San Jose, California, USA
- P. Liutanakul, **Ahmed-Bilal Awan**, S. Pierfederici, B. Nahid-Mobarakeh, F. Meibody-Tabar, “Stability Investigation of Inverter Motor Drive System with Input Filter – Optimisation of the DC-Link Capacitance Value”, *Power Electronics Specialist Conference (PESC)*, 2008, pp. 3728 – 3734, Rhodes, Greece
- Iftikhar. M.U, **Ahmed-Bilal Awan**, Sadarnac D, Lefranc P, Karimi C, “Analysis of Input Filter Interactions in Cascade Buck Converters”, *IEEE International Conference on Industrial Technology 21 – 24 Avr 2008*, pp. 1 – 6, Chengdu, China.

Website links:

Google Scholar: <https://scholar.google.com/citations?user=MqVzDeEAAAAJ&hl=en>
