

## Qualifications:

- 2023- **Certified Energy Manager® - CEM®**, Association of Energy Engineers (AEE).
- 2022- **Ph.D. in Electrical Engineering** from the University of Queensland – UQ, Brisbane, Australia.
- 2015- **Master of Engineering Science in Electrical Engineering** from the University of Queensland.
- 2009- **Bachelor's degree in Applied Electrical Engineering** from King Fahd University of Petroleum and Minerals- KFUPM, Dhahran, Saudi Arabia.

## Research Experience:

- **2018-2022:** PhD candidate at the University of Queensland. Thesis title: **Stability Performance of Power System in Present of Large-Scale PV Power Plants.**
  - Developing a better understanding of LSPV power plant configuration and control influence on grid performance and stability.
  - Enhancing the understanding of reactive power flow in a renewable rich grid and comprehending the mechanism of VAr sources' contribution to the system's effective VAr under supply and demand variations.
  - Investigating the relation between system characteristics and post-disturbance performance in the presence of IBRs considering short circuit level, effective VAr availability, and disturbance location.
  - Establishing a comprehensive method to evaluate the dynamic voltage stability signature of the renewable rich grid under different operating conditions.
  - Developing planning and operation strategies for additional VAr support to enhance power system short-term voltage stability.
- **2015:** Engineering Postgraduate Project **“Large-scale PV Impacts: Steady-State to Instability Concerns”**.
  - Study the impact of PV on the system static voltage stability (load ability margin).
  - Investigate the capability of large-scale PV in providing network voltage support when the system loading condition changes, or a contingency occurs.
- **2015:** DC Power Flow & Network Reduction Techniques.
- **2011-2013:** Micro Inverter for Photovoltaic Applications Project.
- **2008:** Senior project “Controller Design of an AC Variable-Speed Drives”.

## Job Experience:

- Assistant of General Secretary of the University Endowment since **Sep 2023**
  - ✓ Member of the Permanent Committee for Endowments and Investments, since **Sep 2023**
- Assistant professor at AL-BAHA University since **Nov 2022.**
  - ✓ Member of the College of Engineering internal examinations committee (academic year 1444 H)
  - ✓ Member of the College of Engineering students' issues subcommittee (academic year 1444 H)
  - ✓ Teaching experience

- Power System Analysis, **EENG1511**
- Introduction to Electrical Power Engineering, **EENG1508**
- Electronic Circuits, **EENG 1506, EENG 1523**
- Fundamentals of Electrical Engineering, **EENG 1001**
- Graduation Project, part 1&2, **EENG 1753**
- Lecturer at AL-BAHA University **2016-2022**
- Casual Demonstrator with the EAIT-UQ **2019-2022**
  - ✓ Lead tutor for Electricity Market Operation and Security (**ELEC 7310**).
  - ✓ Tutor for Electrical Energy Conversion & Utilisation (**ELEC3300 & ELEC 7302**).
- Saudi Electricity Company summer program **Dec 2019-Jan 2020**.
  - ✓ Working with the high voltage planning unit on planning the grid expansion, focusing on the technical challenges when hosting more renewable energy resources.
- Research Assistant, EAIT-UQ **Nov 2019-May 2020**.
  - ✓ Participate in developing a post-graduate course on system stability studies using PSS/E
- International student ambassador at the UQ International unit, **2016**
- Researcher in King Abdul-Aziz City for Science and Technology (KACST), **Feb 2011- July 2016**.
  - ✓ Participating with a research team in technology transfer to manufacture high-efficiency PV micro-inverters in cooperation with the Scientific and Technological Research Council in Turkey
- Electrical Engineer in Saline Water Conversion Corporation, **Sep 2009 - Feb 2011**.
  - ✓ Participating in the fresh engineers' development program on the technology of power generation & desalination plants (940 Hours).
  - ✓ Maintenance Engineer in reverse osmosis (RO) plant.
- Trainee Student at Engineering and Projects Management in SABIC, **2008**.
  - ✓ working with a team of engineers on a new utility substation (5 MVA 34.5/0.48 kV)
- Part-time jobs at KFUPM from **2005-2009**.
  - ✓ Tutor with Mathematics and Electrical Engineering Departments, Assistant in registration week
  - Assistant in KFUPM bookstore

## Power System Simulation Tools Experience

- **DigSILENT PowerFactory (since 2014)**
  - ✓ I have used PowerFactory heavily for my master and Ph.D. thesis to carry out the following tasks:
    - System modelling, load flow, short circuit calculation, transmission network analysis (PV & QV curve), RMS simulation, EMT Simulation, and simulation automation via Python scripting.
  - ✓ I have provided one-to-one training sessions on PowerFactory to several UQ students (masters and PhDs)
- **Siemens PSS/E (since 2019)**
  - ✓ Developing a post-graduate course in using PSS/E for system stability studies requires system modelling, load flow and short circuit calculation, and voltage and frequency stability analysis.
- **PSCAD**
  - ✓ Power System Protection
- **Matlab / Simulink / MATPOWER/PSAT**
- **PowerWorld**
  - ✓ Power system analysis

## Courses (Power System related):

- Power Systems Analysis
- Power System Protection
- Power System Planning & Reliability
- Electricity Market Operation & Security
- Electrical Energy Conversion & Utilization
- Renewable Energy Integration: Technologies to Technical Challenges.

## Publications: ([Google Scholar page link](#))

- Coalition game theoretic P2P trading in a distribution network integrity-ensured local energy market, Sustainable Energy, Grids and Networks, **2023**
- Design of Energy Storage for Frequency Stability in Low-Inertia Power Grid, IEEE Syst. Journal, **2023**
- Dynamic VAR Planning of Large-Scale PV Enriched Grid, IEEE ISGT Asia, **2021**
- Examination of Effective VAR With Respect to Dynamic Voltage Stability in Renewable Rich Power Grids, IEEE Access, **2021**
- A New Global Index for Short Term Voltage Stability Assessment, IEEE Access, **2021**
- Exploring the Dynamic Voltage Signature of Renewable Rich Weak Power System, IEEE Access, **2020**
- Comparison of steady-state performances of practical large-scale PV configurations, CSEE, **2020**
- Dynamic Voltage Signature of Large-Scale PV Enriched Stressed Power System, SPIES, **2020**
- Large-scale PV Voltage Regulation: Survey of Recent Practice, IEEE PES GTD-Asia, **2019**
- Efficiency and cost optimization of a micro-inverter transformer, POWERING, **2013**

## Extra- Academic & Nonacademic Activities:

- Founder director of Energy Experts House for Training and Consultations. since **Feb 2023**.
- Member of the first cohort of the Saudi Energy Leaders Assembly (SELA), since **Jan 2023**.
- President of the Saudi Students' Association at the University of Queensland **July 2021- July 2022**.
- IEEE & PES member since **2018**.
- A coordinator of social activity at the Saudi Students' Association in Brisbane, **2015**.
- A member of the Saudi Council of Engineers since **2010**.
- A representative member in the adviser committee of the engineering college dean, KFUPM- **2009**.
- A member of the students' affairs committee chosen by the university Recto, KFUPM **2008**.

## Awards and Certificates:

- Thesis examiner's recommendation for Dean's Award for Outstanding HDR Theses. **Dec 2021**
- Best student paper award in the IEEE ISGT Asia 2021 conference. **Dec 2021**.
- Saudi Arabian Cultural Mission student excellence awards, **2019- 2021**.
- Dean's Commendation for Academic Excellence UQ **2014**.
- Shield academic excellence with third honors KFUPM **2009**.
- Shield of Excellence in the student activity KFUPM **2008**.
- Excellence certificate in student activities KFUPM -**2008**.
- Excellence certificate in the annual math competition **2002**.