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Dr. Muhammed Worku (Member IEEE)

Research Engineer/ Assistant Professor

Interdisciplinary Research Center for Renewable Energy and Power Systems (IRC-REPS)
King Fahd University of Petroleum & Minerals, Saudi Arabia

Executive Summary

Electrical Engineer with more than ten years of experience in power electronics converters for renewable integration, power system stability, planning, protection, energy storage for renewable integration and microgrid. Has a strong background in:

- ✓ **Power Electronics**: Converters used for seamless renewable integration.
- ✓ **Energy Storage**: Storage systems used to minimize the power fluctuation and fault ride through.
- ✓ **Microgrid**: Distributed energy resources at the distribution level working in grid connected and island modes.

Education

- ❑ PhD Electrical Engineering (KFUPM, 2015)
- ❑ M.TECH In Electrical Engineering (IITR, 2008)
- ❑ BSc Electrical Engineering

Distinguished Projects

- Utilization Of Phasor Measurement Units For Enhancing West-central Tie Line System Stability: Client: SEC, Role: M, Duration: 2 Years
- Supercapacitors In Power Systems: A Novel Control Concept. Client: KACST: Role: M, Duration: 2 years
- Supercapacitor-Based Energy Storage for Renewable Energy Systems. Client: KACST, Role: M, Duration: 2 years
- Dynamic Analysis and Control of Microgrids: Client: KACST, Role: M, Duration: 2 years
- Signal Processing Based Microgrid Islanding Detection. Role: PI, Duration: 1.5 years, KFUPM
- Leakage Current Based Contamination Level Monitoring of High Voltage Insulators. Role: CO-PI, Duration 1.5 years, KFUPM
- Constant Power Load Instability Compensation in an Autonomous Microgrid. Role: CO-PI, Duration 1.5 years, KFUPM

Research Summary

- ➢ Number of Published Papers: 21
- ➢ Citations: 199
- ➢ H-Index : 9
- ➢ Number of Patents:3
- ➢ Books etc. : One book chapter

Award and Recognitions

Skills and Expertise

- ➢ Design and optimize controllers for the power electronics converters used to integrate renewable sources to the grid.
- ➢ Optimize energy storage systems to minimize the power fluctuation from the renewable sources.
- ➢ Power management and control of microgrids operating in grid connected and island modes.
- ➢ Writing of proposals, research papers, reports to clients and briefings.