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## Dr. Mahmoud Kassas

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King Fahd University of Petroleum & Minerals, Saudi Arabia

### Executive Summary:

Over thirty years of experience with real scale demonstration projects in the fields of renewable energy, power electronics, power quality, motor drives, HVAC energy consumption, and power system analysis. In addition, I was involved with developing several online education courses projects.

Developing research proposals (both fundamental and industrial client proposals), as well as published research data in the form of research articles and patent application. Development of new courses and short courses. Supervising several Masters and undergraduate students in prototyping, simulation, numerical and experimental analysis.

### Education:

- ❑ PhD Electrical Engineering [Vanderbilt University, Nashville, TN, USA, 1991]
- ❑ MS Electrical Engineering [Vanderbilt University, Nashville, TN, USA, 1986]
- ❑ BS Electrical Engineering [Aleppo University, Aleppo, Syria 1979]

## Distinguished Projects

- *Project title* "Modeling, Simulation, and Performance Assessment of Variable Frequency Drives for Air-Conditioning System" funding by *DSR KFUPM*, Dhahran, Saudi Arabia, Role: *PI*.
- *Project title*: "Smart Solar-Home Project" funding by Center for Energy and Geo-Processing, KFUPM, Dhahran, Saudi Arabia, Role: Co-PI.
- *Project title*: "The Impact of Wind Turbine and Photovoltaic Systems on Electrical Grid", KACST, Riyadh, Saudi Arabia, Role: Co-PI.
- *Project title* "Developing an intelligent real time control and implementation of a STATCOM with integrated supercapacitor to improve power system dynamic response" funding by *DSR KFUPM*, Dhahran, Saudi Arabia, Role: *Co-PI*.
- *Project title* "Novel Tracking and Mitigation Strategies for Power Quality and Reliability Improvement in Electrical Networks", KACST, Riyadh, Saudi Arabia, Role: *Co-PI*.
- *Project title* "Study Corrosion Evaluation Using New Electrochemical Impedance Measurement Technique, funding by KACST, Riyadh, Saudi Arabia, Role: *Co-PI*.
- *Project title* "Power System Analysis of SAFCO (IBN AL-BAYTAR). My tasks are to model the network, load flow and power factor correction studies, short circuit studies, motor starting studies, and protective device coordination, funding by SABIC, Jubail, Saudi Arabia, Role: *Co-PI*.
- *Project title* "POWER QUALITY STANDARDS" funding by *Saudi Electricity Company*, Riyadh, Saudi Arabia, Role: *Co-PI*.
- *Project title* "Development of Electricity Generation & Transmission Plan for Ministry of Water & Electricity", *ECRA*, Riyadh, Saudi Arabia, Role: *Co-PI*.

## Research Summary

- Number of Published Papers: 45
- Citations : 515
- H-Index : 9
- Number of Patents : 1
- Articles Reviewed : 100

## Award and Recognitions

- Twice awarded the best advising award for year 2011 and year 2016.
- U.S. Patent # 8165855 "Method of Modeling Fluid Flow Over Porous Blocks", April 24 2012.

## Skills and Expertise

- Renewable Energy, Power Electronics, Power Quality, Material Property, and Machine Drives,
- Designing, Computing, Simulation & Modelling by ETAP, SIMULINK MATLAB, HOMER Pro, PLC, and LabVIEW,
- Prototyping, Experimental Analysis and Technical Assessment,
- Power System Analysis, Energy Management System, Sizing PV and Wind System for Residential and Commercial Areas, Energy Efficiency,
- Smart home design by IoT.