

Asst Prof. Baba .S .A .Omar

Personal

Name: Baba Salah Alsgir Omar
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Date of Birth: 01/04/1977
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Current position

Assistant Professor at Faculty of Energy and Mining Engineering, Sebha University, April 2016 – Until now

I am one of The Sebha University Teaching Staff Committee. Sine March 2018 – Until now.

I teach undergraduate and graduate courses, which are Well Log, Geophysical Exploration, Energy System and Petroleum Geology in Petroleum Engineering and Renewable Departments.

Lecturer at Faculty of Energy and Mining Engineering, Sebha University, August 2012 – April 2016.

Education

Cranfield University, Ph.D, in United Kingdom, May 2008 - April 2012

Investigating the feasibility of using an electric hybrid system consisting of fuel cell and battery to power a small aircraft. Proton Exchange Membrane (PEM) fuel cell acts as primary power plant for the electric motor in combination with a battery as auxiliary power source in order to achieve the desired power for the plane.

A simulation model of the electrical hybrid system was developed in MATLAB/Simulink. The simulation results validated using a bench test experimental setup (consisting of the Nexa fuel cell module, battery, DC/DC converters and the load). The project was focusing on implementing a fuzzy logic controller to optimise the FC system performance and the energy management of the hybrid system.

Supervision: Supervised three M.Sc by research students in all aspects of technical and academic research for “Interface Design for Nexa Fuel Cell System Using MATLAB for Aerospace Applications”, “Health Management for Aircraft Electrical Power System” and “Modelling of a NEXA Polymer Electrolyte Membrane Fuel Cell stack for UAV Application”.

HAN University, M.Sc, in Netherlands, May 2005 - May 2007

My M.Sc thesis was about a simulation model for combining and controlling a central heating system, which consists of a wood furnace and a normal central heating system to decrease the consumption of fossil fuel and it is also an environmental friendly solution. The MATLAB/Simulink was used in this work. A control strategy had to be found in which the operating costs of this mixed system is minimized.

Concordia University, in Canada, April 2002 - April 2004

- Intensive program of English as second language.
- I took "Introduction to Environmental Engineering" course as Independent graduate student in Department of Building, Civil and Environmental Engineering.

Al Fatah University, B.Sc, in Libya, September 1996 - April 2001

Five years taught course in Geological Engineering. My final B.Sc project was conducted in the Libyan Sahara focused on reservoir crystallization as it relates to oil exploration and production. The aim of the project was to understand the structural configuration and general stratigraphy of the study area and to investigate the petro-physical characteristics of the reservoir of the Belhedan Oil field. These include the evaluation of the reservoir porosity, net pay and Original Oil-in-Place.

Skills

Operating Systems: Windows (XP, Vista, 7),

- History of use: I have used Windows since an early age and I am comfortable using many of its software, including Office. I have taught myself to use many of the features, and also to troubleshoot any problems.

Computer Languages: MATLAB, Fortran,

- Area of application: MATLAB/Simulink has been my primary language since 2004. Embedded Systems, Classical Control, Linear Programming, Latex – Typesetting

Languages: Arabic and English (Fluent: Reading, Speaking and Writing).

Publications

- "Modelling of a Hybrid Fuel Cell Propulsion System for Small UAV", Omar, B., (2010), the 25th Bristol International Unmanned Air Vehicle System (UAVs) Conference, Bristol, UK.
- "Experimental Analysis of the Dynamic Performance of PEM Fuel Cell under Various Load Changes", Omar, B., (2010), International Conference on Mechanical and Electrical Technology (ICMET), Singapore.
- "Power Management of Hybrid Fuel Cell Propulsion System for Small UAV by using Fuzzy Logic Controller", Omar, B., (2013), II. European Conference and Workshop on Renewable Energy Systems, Antalya, Turkey.
- "An Experimental Study of using PEM Fuel Cell/Battery Hybrid System to Power Small UAV", Omar, B., (2014), 5th International Conference on Energy and Sustainability, Putrajaya, Malaysia.
- "The Performance of 0.5 H/T Ratio Wells Turbine Operating under Irregular Unsteady Bi-directional Flow" , (2014), Omar, B., ENTECH '14 / Energy Technologies Conference, Istanbul, Turkey.

Presentations

- "Simulation Model of Hybrid Fuel Cell Propulsion System for Small UAV", Omar, B., December 3rd 2010, Shrivenham, Cranfield University.

Interests

History of Science, Computer Programming, Politics, Hockey, Running and Languages.

References

Dr. Al Savvaris

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