

Dr. MARWA MOHSEN IBRAHIM ABD ELRAHMAN

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PERSONAL INFORMATION

Gender: Female
Date of Birth: 01/08/1986
Place of Birth: Fayoum, Egypt
Nationality: Egyptian
Marital Status: Single
Religion: Muslim
Languages: Arabic & English

AFFILIATION

Assistant Prof. Researcher, Mechanical Engineering Dept., National Research Centre (NRC)

EDUCATIONAL QUALIFICATIONS DEGREES

- **PhD degree**, [Mechanical Power Engineering Dept.](#), Faculty of Engineering, Cairo University, Jan. 2018.
"Design and Performance Evaluation of Renewable Energy Based Micro-Grid System with Energy Storage"
- **M.Sc. degree**, [Industrial Engineering Dept.](#), Faculty of Engineering, Fayoum University, Egypt, April 2014.
"Optimization of Small-Scale Wind Turbine System Considering Externalities"
- **B.Sc. degree**, [Industrial Engineering Dept.](#)-Grade of 81% (very good), Faculty of Engineering, Fayoum University, Egypt, (May 2008).
Graduation Project: Development of ISO\TS 16949 Quality System (**Industrial Engineering**)
Project degree: Excellent

SPECIALIZATION

Power and Energy Engineering: (Renewable Energy & SMART Grids)
Industrial Engineering: (Quality, Safety, Maintenance)

TECHNICAL EXPERIENCES

Researcher, Mech. Eng. Department, NRC, (2018-till now)
Assistant Researcher, Mech. Eng. Department, NRC, (2014- 2017)
Researcher Assistant, Mech. Eng. Department, NRC, (2010-2014)
Mechanical Engineer, Mech. Eng. Department, NRC, (2009-2010)
Quality Assurance Engineer, ICDI Company, Egypt, (2008-2009)

CERTIFICATIONS

Certified Project Management PMP: [PMI, Brooklyn University](#), 2020
Certified Safety General Industry: [OSHA, NSAP](#), 2020.
Certified Maintenance & Reliability Professional: [CMRP, SMRP](#), 2020.
Certified Finite Element Analysis CFD: [ANASYS, Cairo University](#), 2020.
ISO Audit Member of [EGAG National Office](#), 2020.
Certified Master Trainer: [Business Administration MBA](#), Diplomatic Tainting & Consulting, 2020.
Certified Master Trainer: [Industrial Engineering Toolkit IETK \(IBDL\)](#), 2019- till now.
Total Quality Management (TQM) **Six Sigma & Lean Manufacturing**
Operation Research Management **Supply Chain Management**
Consultant, [Renewable Energy System](#), Fayoum University, 2019-till now.
Editor of [Energy and Earth Science Journal](#), 2019-till now.
Associate Editor of Journal International Society for Science and Engineering [JISSE](#), 2019- till now.
Reviewer of [Renewable Energy Journal, El-Sevier](#), 2019-till now.

FELLOWSHIPS

6- months fellowship from [REPSOL Technology Center, Madrid, Spain](#), "**Technical and Economic Evaluation of the Renewable Energy System Integrated with Smart Grid**", to enhance African women's leadership and technology transfer of the research centers and universities home country, SCIENCE BY WOMEN, [Women for Africa Foundation](#), 5th Edition, 2020.

MEMBERSHIPS:

- **Member of International Society for Science and Engineering (JISSE), 2019-till now.**
- **Member of Egyptian Society of Engineers, 2019-till now.**
- **Member of Egyptian Syndicate of Engineers (ESE), 2008-till now.**

PROJECTS

- **CO-PI** of Internal Project "**Design, Manufacture and Test A Continuous Production Device (Semi-Industrial 140L) for Biodiesel From Egyptian Jatropha Seeds and The Performance of A Diesel Engine Burning The Produced Fuel**", National Research Centre, Egypt, 2019-2021.
- **Member** of **STDF** Project "**Optimal Design of Hybrid Renewable for Tourism Facilities in the Fayoum Governorate**", Netwon-Mosharafa, Institutional Links grant, Fayoum University, 2019.
- **Member** of Internal Project "**Mini Car Run by Alternative Renewable Fuel for 4 Persons**", National Research Centre, Egypt, 2018-2020.
- **Member** of Internal Project "**Hybrid W/S/D/B Energy System Application in Nubariyyah**", National Research Centre, Egypt, 2017- 2020.
- **Member** of Internal Project "**Design, Manufacturing and Test of A Press to Produce Oil from Egyptian Jatropha**", National Research Centre, Egypt, 2016-2019.
- **Member** of Internal Project "**Hydrogen Produced from Sun Energy as Alternative Fuel in Engines**", National Research Centre, Egypt, 2016-2019.
- **Member** of Internal Project "**New design of Renewable Energy System for Rural Areas in South of Sinai**", National Research Centre, NRC, 2016-2018.

TRAINING & CONFERENCES:

- Participation in the 2nd Phase of International Program on "**Wind Power Development and Use**" Aug-Sept 2012, Sweden. (Certified by SIDA).
- Participation in the 4th Phase of International Program on "**Wind Power Development and Use**" Feb-March 2013, India. (Certified by SIDA)
- Participation in the 3rd Egyptian Tunisian Workshop on "**New and Renewable Energies**", June 2013, NRC, Egypt.(Certified by Ministry of Scientific Research).
- Participation in the 4th Egyptian-Fulbright Workshop on "**Renewable Energy Systems**", NRC, Egypt, April 2014,. (Certified by Fulbright-Ministry of Scientific Research).
- Participation in the 5th Egyptian-Fulbright Workshop on "**Renewable Energy Systems**", NRC, Egypt, April 2015. (Certified by Fulbright-Ministry of Scientific Research).
- Participation in "**International Solar Power North Africa**", Egypt, Feb.2017.
- Participation in "**Solar Energy Diploma**", NREA, Egypt, 2018.
- Speaker in "**20th International Conference of Engineering Applications and Renewable Energy**", Bangkok, Thailand, Nov.2018.
- Participation in "**Solar Energy Diploma**", (Certified by TAQA Academy), Cairo, Egypt, 2019.
- Participation in "**Renewable Energy Alliance Boot Camp**", BUE Science & Innovation Park From, Egypt, Feb 2019.
- Participation in "**International Solar-Wind Show MENA**", Nile Ritz Cairo, Egypt, 2019.
- Participant in "Master Industrial engineer Training", IDBL, 2019.
- Participation in **1st IAFS Training Program on "Solar Energy Technologies"**, (Certified by NISE), India, August 2019.
- Participant in "**Solar Water Heaters Manufacturing, UNIDO**", Cairo, Egypt, 2020.
- Participant in "**ISO Auditing Certified**", EGAC, Egypt, 2020.

SUPERVISION

- Tawfik Mohamed Tawfik, "**Holistic Energy Management Strategy for Renewable Energy-Based Micro-Grids**", **PhD. Thesis**, Industrial Engineering Dept., Banha University, Oct.2019.
- Amal El-Shhat Mahdy, "**Optimization of SMART Cooling System Based on Peltier Elements Powered By Photovoltaic Modules**", **PhD. Thesis**, Electric Power Engineering Dept., Helwan University, Sep.20202.
- Shymaa Ali Salem, "**Techno-Economic and Life cycle Impact Analysis of Hybrid Renewable Energy System Supplying small RO Desalination for Remote Areas**", **PhD. Thesis**, Mechanical Power Engineering Dept., Banha University, Sep.2020.

PUBLICATIONS

- M.A.Badr, A.N.Mohib and **M.M.Ibrahim**, "**Small Wind Turbine Hybrid System for Remote Application: Egyptian Case Study**", International Journal of Mechanical, Aerospace, Industrial, Mechatronic and Manufacturing Engineering, a Vol.8, No9, 2014.
- M.A.Badr, M.N.ElKordy, A.N.Mohib and **M.M.Ibrahim**, "**Cost Analysis of Hybrid Wind energy Generating System Considering CO₂ Emissions**", International Journal of Environmental, Chemical, Ecological, Geological and Geophysical Engineering, a Vol.10, No.5, 2016.
- M.A.Fouad, M.A.Badr and **M.M.Ibrahim**, "**A Study of an Egyptian Micro-Grid System with Economic Appraisal**", **Journal of Engineering and Applied Science**, Vol.63, No3, PP. 183-199. June 2016.
- N.M.Khattab ,M.A.Badr , K.Y.Maalawi , E.T.ElShenawy, H.H.ElGhetany and **M. M. Ibrahim**, "**Hybrid Renewable Energy System For Water Desalination: A Case Study For Small Green House Hydroponic Cultivation in Egypt**", ARPN Journal of Engineering and Applied Sciences, a Vol.11, No.21, 2016.
- M.A.Fouad, M.A.Badr and **M.M.Ibrahim**, "**Economic Evaluation of Micro-Grid System (On/Off Grid): Egyptian Case Study**", International Journal of Scientific & Engineering Research, Volume 8, Issue 2, February-2017.
- M.A.Fouad, M.A.Badr and **M.M.Ibrahim**, "**Modeling of Micro-Grid System Components Using Matlab/Simulink**", Global Scientific Journals, Volume 5, Issue 5, May 2017.
- M.A.Fouad, M.A. Badr, Z.S. Abd El-Rehim, Taher Halawa and **M.M. Ibrahim**, "**Effect Of Some Parameters On the Cost Of Energy Generated From Renewable Energy Based Micro Grid System**", Journal of Scientific and Engineering Research, Volume 4, Issue 9, Sep. 2017.
- M.A.Badr, A.N.Mohib and **M.M.Ibrahim**, "**Optimization of Small-Scale Wind Turbine System Considering Emissions**", ISBN: 978-620-2-00381-0, LAMBERET Academic Publishing LAP, Germany, 2017.
- **M.M.Ibrahim**, M.A. Fouad and M.A.Badr, "**Design of Micro-Grid Renewable Energy System with Energy Storage**", ISBN: 978-620-2-30810-6, Scholars' Press Academic Publishing, Germany, 2018.
- M.A.Fouad, M.A.Badr, Z.S. Abd El-Rehim, Taher Halawa, Mahmoud Bayoumi and **M.M.Ibrahim**, "**Technical and Economic Analysis of Smart Micro-Grid Renewable Energy System: Applicable Case Study**", Conference Proceeding of 20th International Conference of Engineering Applications and Renewable Energy, Bangkok, Thailand, Nov.2018.
- M.A. Fouad M.A.Badr, Mahmoud Bayoumi and **M.M.Ibrahim**, "**Experimental Investigation Results Supercapacitors vs. Batteries**", Journal of Scientific and Engineering Research, Volume 6, Issue 1, 2019.
- **Marwa M. Ibrahim** and Manu Ahuja, "**Solar Energy Technologies: Principals and Applications**", ISBN: 978-620-0-27875-3, Scholars' Press Academic Publishing, Germany, 2019.
- **Marwa M. Ibrahim**, "**Renewable Energy Sources**", ISBN: 978-620-0-48686-8, Scholars' Press Academic Publishing, Germany, 2019.
- Manu Ahuja and **Marwa M. Ibrahim**, "**Implementation of Smart Bulb Lighting System Using Android**", Journal of International Society for Science and Engineering, Volume 1, Issue 2, PP. 36-42, 2019.
- **Marwa M. Ibrahim**, "**Wind Turbines Failures and Maintenance Strategies**", ISBN: 978-613-8-92566-8, Scholars' Press Academic Publishing, Germany, 2020.
- Amal ElBerry, M.A.Badr and **Marwa M. Ibrahim**, "**Reliability Analysis of Gas Turbine Power Plant Based on Failure Data**", International Journal of Mechanical & Mechatronics Engineering IJMME-IJENS, Volume 20, Issue 2, PP.13-25, 2020.
- **Marwa M. Ibrahim**, "**Energy Storage Technologies**", ISBN: 978-620-2-67665-6, LABMERT Academic Publishing LAP, Germany, 2020.
- **Marwa M. Ibrahim**, "**Performance Analysis and Optimization of Solar Powered Water Pumping System Compared To Convention Diesel for Irrigation Application in an Isolated Region, Egypt**", International Journal of Mechanical & Mechatronics Engineering IJMME-IJENS, Volume 20, Issue 5, PP.186-200, 2020.

- **Marwa M. Ibrahim**, M.A.Badr and Amal ElBerry, "**Feasibility and Performance Analysis of Grid-Tied Solar Photovoltaic Systems using Pvsyst Simulation Package of Pharmaceutical Factory Case Study in Egypt**", International Journal of Energy, Environment, and Economics, Volume 26, Issue 4, PP.249-267, 2020.
- **Marwa M. Ibrahim**, "**Desalination and Water Treatment**", ISBN: 978-620-3-04228-3, LABMERT Academic Publishing LAP, Germany, 2020.
- **Marwa M. Ibrahim**, "**Technical and Economic Comparison between Solar and Wind Energy Supplying Desalination System**", Journal of Sustainable Development of Energy, Water and Environment Systems. Accepted

COURSES:

- Project Management PMP: PMI, Brooklyn University.
- Certified Safety General Industry: OSHA, NSAP.
- Certified Maintenance & Reliability Professional: CMRP, SMRP.
- Finite Element Analysis CFD: ANASYS, Cairo University.
- Master Industrial Engineer IETK (Certified by IDBL)
- ISO Auditing Certified, Certified by EGAC
- Master of Business Administration MBA, Diplomatic Training & Consulting
- TOEFL ENGLISH TEST (Certified by AMEDIST).
- ICDL (Certified by UNISCO Organization).
- MATLAB (Certified by Cairo University).
- Arduino Software
- PRIMAVERA (Certified by Cairo University)
- Statistical Analysis using STATA I (DAAD Cairo Academy)
- HOMER & HYBRID 2 (Renewable Energy Systems)
- Pvsyst & Sketch-up (Renewable Energy Systems)
- SAM (Renewable Energy Systems)
- RET SCREEN (Renewable Energy Systems)
- LINGO (Optimization)
- AutoCAD (2D)

SKILLS:

- **Language:**

Arabic: (tongue language) & English: Fluent. Good (writing-reading-speaking).

- **Computer knowledge:**

Windows Operating System & Microsoft Office & Internet Applications & Visual Basic Applications.

REFERENCES & CERTIFICATES:

Available upon request.