

Dr. Mohammed Fekry Farah El-Dosoky

PERSONAL DETAILS

First Name	Mohammed			
Other Names	Fekry Farah Eldosoky			
Title	Associate Professor			
Gender	Male			
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Date of birth	Day 28	Month 2	Year 1970	Place of birth Qena – Egypt

EDUCATION

Descriptions	Ph.D	Master	Bachelor
Name of Subject	Analytical and CFD Methods Investigating Shroud Blade Tip Leakage.	A Study On The Improvement Of The Performance Of a Centrifugal Pump	B. Sc. Of Mechanical Engineering
(Major) (Specializations)	(Mechanical Power) (CFD in turbo-Machines)	(Mechanical Power) (hydraulic-Machines)	(Mechanical Power)
Percentage of Marks along with Grade	_____	Very Good	Distinction
Name of Institution(s) along with name of Country (Institution) (Country)	Department of Engineering / University of Leicester, UK ضمن تصنيف شنغهاي http://www.shanghairanking.com/ARWU2019.html	Faculty of Engineering / University of Assiut, EGYPT	Faculty of Engineering / University of Assiut, EGYPT

- My PhD thesis at Leicester Univ. link (copy the link and Paste): <https://lra.le.ac.uk/handle/2381/4553>
- Title of M. Sc. thesis is "A Study On The Improvement Of The Performance Of a Centrifugal Pump"
- Title of PhD thesis is "Analytical and CFD Methods Investigating Shroud Blade Tip Leakage"

EMPLOYMENT HISTORY

Position	Employer	Dates (from-to)
Associate Professor	Mechanical Engineering Department, College of Engineering, Alasala Colleges, Dammam, The Kingdom of Saudi Arabia.	October 2019 – Present
Associate Professor	Mechanical Engineering Department, Faculty of Engineering, Assiut University, Assiut, Egypt.	February 2018 – Present (on leave of absence)
Assistant Professor	Mechanical Engineering Department, Faculty of Engineering, Assiut University, Assiut, Egypt.	July 2009 – February 2018
Research Assistant	Department of Engineering University of Leicester, UK	January 2005 - April 2009
Assistant Lecturer	Mechanical Engineering Department, Faculty of Engineering, Assiut University, Assiut, Egypt.	July 2000 - December 2004
Demonstrator	Mechanical Engineering Department, Faculty of Engineering, Assiut University, Assiut, Egypt.	June 1993 - June 2000

MEMBERSHIP OF PROFESSIONAL ASSOCIATIONS

Professional body	Level of membership	Year of award
Education evaluation team, Faculty of Engineering, Assiut University, Egypt.	Member	2002-2004
The consultancy office of the Faculty of Engineering, Assiut University, Assiut, Egypt.	Consultant	2009 - Present
Industrial Technology Transfer Unit (ITTU), Assiut University, Assiut, Egypt.	Consultant	2010 - Present
Egyptian Engineering syndicate.	Member	1993 - Present

Teaching Experience

Under graduate courses

Electro-Hydraulic Servo Systems
 Gas Dynamics
 Renewable Energy
 Industrial Ventilation
 Turbines and Compressors
 Hydraulic Machines and Stations

Assiut University, Egypt
 South Valley Univ. & Assiut Univ., Egypt
 Assiut University, Egypt
 South Valley Univ. & Assiut Univ., Egypt
 South Valley Univ. & Assiut Univ., Egypt
 Assiut University, Egypt

Mechanical Power Laboratories	Assiut University, Egypt
Measuring Instruments	Assiut University, Egypt
Thermodynamics I & II	Assiut University, Egypt & Alasala colleges, SA.
Fluid Mechanics	Assiut University, Egypt & Alasala colleges, SA.
Basic of Computer Science	Assiut University, Egypt
Machine Design I & II	Assiut Univ., Egypt & Alasala colleges, SA.
System dynamics and control	Assiut Univ., Egypt & Alasala colleges, SA.
Capstone Project	South valley Univ. & Assiut Univ., Egypt & Alasala colleges, SA.

Postgraduate courses

Computational Fluid Dynamics CFD	: Assiut University, Egypt
Pumps	: Assiut University, Egypt
Advanced topics in Hydraulic Mach.	: Assiut University, Egypt
Pumps and Fluid Mechanics	: Sugar Technology Research Institute, Egypt

Languages

Arabic	: Native Language
English	: Read, Write, Speak (fluently)

Research interests

- Computational fluid dynamics **developing in-house codes** (Pressure & Density based).
- Grid generation using Multi-block multi-grid techniques.
- CFD General Notation System (CGNS).
- The renewable Energy (Wind turbine and solar collectors).
- Micro and Nano Fluid Mechanics
- Passive and active Boundary layer flow control.
- Unsteady compressible and incompressible flows
- Advanced turbulence models in addition to the detached eddy simulation (DES)
- Hydraulic and turbo-machines performance.
- google scholar link:**
https://scholar.google.com/eg/citations?user=g_mO8f4AAAAJ&hl=en

Research Projects

-  Study of Aerodynamic and Film Cooling of Turbine Blade [STDF]

Research Experience

- Co-supervisor of the following awarded thesis:-
 - One PhD thesis
 - Three MSc theses.
- Co-supervisor of one PhD Student. (in progress) (The field of study: Turbo-Machines).

- Co-supervisor of three MSc Students. (in progress) (The field of study: CFD simulations for Different Unsteady compressible and incompressible flows).
- Strong experience in developing the compressible and incompressible CFD codes.
- Strong experience in implementing commercial CFD codes such as ANSYS Fluent.
- Strong background in computer programming in FORTRAN as well as utilizing some standard commercial software packages.
- dealing with the following instrument through my research:
 - Data acquisition systems.
 - Computer and test rig transducers interface.
 - Magneto flow meters.
 - Digital pressure transducers.
 - Digital torque and speed transducers.
 - Thermocouples

PUBLICATIONS

Journal articles:

- [1] Abo Elfadl, Saleh, Hassan, Hamdy, **M.F. El-Dosoky**, "Study of the performance of double pass solar air heater of a new designed absorber: An experimental work", *Solar Energy* Vol. 198, **March 2020** Pages 479-489. <https://doi.org/10.1016/j.solener.2020.01.091>
- [2] Aldo Rona, **M.F.F. El-Dosoky**, D.S. Adebayo "A hybrid RANS model of wing-body junction flow", *European Journal of Mechanics / B Fluids*, Volume79, **(2020)** Pages 283-296, doi.org/10.1016/j.euromechflu.2019.09.014. <https://doi.org/10.1016/j.euromechflu.2019.09.014>
- [3] Hassan, Hamdy, Abo Elfadl, Saleh, **M.F. El-Dosoky**, "An Experimental Investigation of the Performance of New Design of Solar Air heater (Tubular). *Renewable Energy*. **(2019)** 10.1016/j.renene.2019.11.112. <https://doi.org/10.1016/j.renene.2019.11.112>
- [4] **M. F. El-Dosoky**, M. Ahmed, and N. Ashgriz, "Numerical simulation of condensate Removal from Gas Channels of PEM Fuel Cells Using Corrugated Walls", *International Journal of Energy Research*, Volume42, Issue 4 **(2018)** Pages 1664-1676, DOI:10.1002/er.3962. <https://doi.org/10.1002/er.3962>
- [5] M. Eslamian, M. Ahmed, **M. F. El-Dosoky**, M.Z. Saghir, "Effect of thermophoresis on natural convection in a Rayleigh cell filled with a nanofluid", *International Journal of Heat and Mass Transfer* 81 **(2015)** 142–156. <https://doi.org/10.1016/j.ijheatmasstransfer.2014.10.001>
- [6] Diaan A M, **El-Dosoky M F**, Ahmed M A, "Enhancing the Performance of an Axial Compressor Cascade using Vortex Generators", *Journal of Aeronautics & Aerospace Engineering*, Vol. 5 No.4 **(2016)** DOI: 10.4172/2168-9792.1000176. <https://www.longdom.org/abstract/enhancing-the-performance-of-an-axial-compressor-cascade-using-vortex-generators-15141.html>

- [7] Walid J. Al-Nahari , **Mohammed F. F. El-Dosoky**, Mohammed M. Abdelghany, and Hamdy M. Sahfey, " Development and Validation of an In-House CFD Code for Environmental Flow Simulation Using Measurements in Atmospheric Boundary Layer Wind Tunnel ", Journal of Engineering Sciences Assiut University Faculty of Engineering Vol. 44 No.1 January (2016) PP. 54 – 71. http://www.aun.edu.eg/journal_files/451_J_4390.pdf
- [8] Mohamed S. El-Soghier, **Mohamed F. F. El-Dosoky**, Ali K. Abdel-Rahman, Hany A. Mohamed, Mahmoud G. Morsy, " Performance Study of a Modified Ranque-Hilsch Vortex Tube", Journal of Engineering Sciences Assiut University Faculty of Engineering Vol. 42 No.6 November 2014 PP. 1414 – 1429. http://www.aun.edu.eg/journal_files/269_J_9576.pdf
- [9] Walid J. Al-Nahari , **Mohammed F. F. El-Dosoky**, Mohammed M. Abdelghany, and Hamdy M. Sahfey, " Development, Verification and Validation of In-House Code for Weakly Compressible Flow ", Journal of Engineering Sciences Assiut University Faculty of Engineering Vol. 42 No.5 September 2014 PP. 1193 – 1214. http://www.aun.edu.eg/journal_files/264_J_1239.pdf

International conferences:

- [1] M. Abdelhares; O. Hassan; **M. F. El-Dosoky**; M. M. Abdelghany " Numerical Investigation of the Effect of Dielectric Barrier Discharge Actuator (DBDA) on Film Cooling Performance Downstream a Circular Hole Scheme Over a Gas Turbine Vane Pressure Side", AMME Volume 18 Issue 18th International Conference on Applied Mechanics and Mechanical Engineering, Pages 1-26, 2018, Cairo, Egypt. https://amme.journals.ekb.eg/article_34987_5735.html
- [2] W. M. Salman, H. A. Ali, M. S. Abdelsalam. **M. F. F. El-Dosoky**, M. Abdelgawad, " Interfacial electrical shear stresses induce electro-hydrodynamic flows inside droplets actuated by electrowetting", Proceedings of the ASME 2015 International Mechanical Engineering Congress & Exposition IMECE2015 November 13-19, 2015, Houston, Texas, USA. <https://asmedigitalcollection.asme.org/IMECE/proceedings-abstract/IMECE2015/57472/V07BT09A006/253641>
- [3] Ahmed M. Daa, **Mohammed F. El-Dosoky**, Mahmoud A. Ahmed, Omar E. Abedel-Hafez, " Boundary layer control of an axial compressor cascade using nonconventional vortex generators, Proceedings of the ASME 2015 International Mechanical Engineering Congress & Exposition IMECE2015 November 13-19, 2015, Houston, Texas, USA. <https://asmedigitalcollection.asme.org/IMECE/proceedings-abstract/IMECE2015/57342/V001T01A044/262659>
- [4] Ahmed M. Daa, **Mohammed F. El-Dosoky**, Mahmoud A. Ahmed, Omar E. Abedel-Hafez, " Effect of a new vortex generator on the performance of an axial compressor cascade at design and off-design conditions, Proceedings of the ASME 2015 International Mechanical Engineering Congress & Exposition IMECE2015 November 13-19, 2015, Houston, Texas, USA. <https://asmedigitalcollection.asme.org/IMECE/proceedings-abstract/IMECE2015/57342/V001T01A043/262658>

- [5] Ahmed M. Diaa, **Mohammed F. El-Dosoky**, Mahmoud A. Ahmed, Omar E. Abdel-Hafez, "Secondary Flow Control on Axial Flow Compressor Cascade Using Vortex Generators, Proceedings of the ASME 2014 International Mechanical Engineering Congress & Exposition IMECE2014 November 14-20, **2014**, Montreal, Quebec, Canada. <https://asmedigitalcollection.asme.org/IMECE/proceedings-abstract/IMECE2014/46421/V001T01A069/261276>
- [6] W. M. Salman, M.S. Abdelsalam, **M.F. F. El-Dosoky**, and M. Abdelgawad, Effect of Electrical Conductivity and Permittivity of Liquids and Frequency of The Applied Voltage On Droplets Actuation On Digital Microfluidic Devices, accepted in MicroTAS 2014, San Antonio, USA, 26-31 October, 2014.
- [7] **El-Dosoky, M.F.**, Rona, A., Gostelow, J.P."An analytical model for over-shroud leakage losses in a shrouded turbine stage", ASME Paper GT2007-27786, ASME Turbo-Expo 2007, Montreal, Canada, 14-17 May **2007**.
<https://asmedigitalcollection.asme.org/GT/proceedings-abstract/GT2007/47950/773/363867>
- [8] **El-Dosoky, M. F.**, Abdel-Hafez, O. M. E., Abdelgany, M. M., Ayyad, A. K. "An Experimental Study on the Improvement of the Suction Performance of a Centrifugal Pump Due to Inducer Installation", MEDZINARODNA Konferencia O VODNEJ ENERGETIKE, pp. 23-35, **2001** October 9-11 Podbanske, Slovenska Republika.
- [9] **El-Dosoky, M. F.**, Abdel-Hafez, O. M. E., Abdelgany, M. M., Ayyad, A. K. "An Experimental Study of the Effect of Inducer Geometrical Parameters on the Performance of a Centrifugal Pump", MEDZINARODNA Konferencia O VODNEJ ENERGETIKE, pp. 37-49, **2001** October 9-11 Podbanske, Slovenska Republika.
- [10] **El-Dosoky, M. F.**, Abdel-Hafez, O. M. E., Abdelgany, M. M., Ayyad, A. K. "Analytical Investigation of Oscillations Associated with Cavitating Inducers", MEDZINARODNA Konferencia O VODNEJ ENERGETIKE, pp. 51-65, **2001** October 9- 11 Podbanske, Slovenska Republika.