



Name: Hesham Sayed Abdel Mohsen (Hesham S. Abdel Mohsen)

Current Title (including department and university): Assistant Professor, Dept. of Mech. Power Engineering, Faculty of Energy Engineering-Aswan, Aswan University, Egypt,

Address: Dept. of Mech. Power Engineering, Faculty of Energy Engineering, Sahery, Aswan University Post Office, Post Code 81528, Aswan, Egypt.

Phone: +201033384440 & +201114330564

Email: h_sayed80@yahoo.com, h_sayed80@energy.aswu.edu.eg.

FIELDS OF SPECIALIZATION

- **Energy Engineering**
- **Renewable Energy (Solar, Hydro, Thermo-Electric, Hydrokinetic Saviniuos Rotor)**
- **Mechanical Power Engineering**
- **Turbomachines**
- **IC Engines & Hydrogen Energy**
- **Air Conditioning**

DEGREES

-Ph.D. Degree of Mechanical Engineering from Faculty of Engineering, Minia University, August 2016, entitled "Experimental and Numerical Study of Some Geometrical Parameters on the Performance of Regenerative Blower".

-M.Sc. Degree of Mechanical Engineering from The Faculty of Energy Engineering, Aswan University, November 2010, entitled "An Experimental Analysis of Energy Recovery for Humidity Control in an Air

Conditioning System".

-B.Sc. Degree of Mechanical Engineering from the Faculty of Energy Engineering, Aswan University, May 2002.

ACADEMIC AND INDUSTRIAL POSITIONS

1- From 28/4/2003 to 22/12/2011, Technical Administrator Engineers, the Egyptian Radio and Television Union.

2- From 11/11/2011 to 29/9/2016, Assistant Lecturer, and from 29/9/2016 until now, Assistant Professor, The Faculty of Energy Engineering, Aswan University

RESEARCH PROJECTS

- Year(s) of project, synopsis of thesis or abstract, was it published and if so, where?

Participation in STDF- GERF joint project "Solar Chimney Power Generation - Case of Aswan, Egypt" 2013-2017. Partner with Ruhr University Bochum, and The University of Wuppertal - Germany (2016-2017).

CONSULTANT

1- From 28/4/2003 to 22/12/2011, Technical Administrator Engineers, the Egyptian Radio and Television Union.

Responsibilities:

I had an experience as a supervisor manager in:

1-Air condition.

*Central air condition system

a) Reciprocating YORK chilled water units (operation, major and minor maintenance).

b) EVAPCO cooling towers (operation, major and minor maintenance).

c) Piping and pumping system of chilled and condensing water (operation, major and minor maintenance).

d) Air handling units (operation, major and minor maintenance).

*Split units (operation, major and minor maintenance).

*The electrical control system for all the above (operation, major and minor maintenance).

2-HOPMAN electrical elevators (operation).

3-Diesel engine VOLVO power generator, with generating capacity of 400 kW (operation and minor maintenance).

4-Water pumping station of water firefighting system and supplying channel 8 buildings for water (operation, major and minor maintenance).

5-Lower and medium voltage cells and two electrical feeding bass-couplers (operation).

6-EST fire alarm system (operation and minor Maintenance).

7-Internal central with 200 lines (NEC NEAX 2400 SDS) (operation, major and minor maintenance).

8-Uninterruptible power supply (GALAXY UPS) (200 kVA) (operation, major and minor maintenance).

9-Transformers 1000 kW (operation and minor maintenance).

10-Participation in a training program entitled "Program of Fire Prevention Middle Management", which was held at the National Center for Occupational Safety and Health Studies and Work Environment Security from 26/4/2002 to 30/4/2002.

II-Participation as a technical member in tenders for the preparation of needs and spare parts required for maintenance, repair and overhaul operations for chillers and central air conditioning cooling towers, in addition to changing and developing low-voltage cells that are in service

III- Participate in preparing the annual needs and assessments for spare parts required for maintenance and repair operations for all equipment and devices in service and calculating the financial cost for them.

IV- General supervision of plumbing, carpentry, cleaning, and agricultural works in the South Upper Egypt Radio and Television Building (Channel Eight Building) and working on the formation of specialized committees to identify and purchase the necessary needs for these works.

2- From 11/11/2011 to 29/9/2016, Assistant Lecturer, and from 29/9/2016 until now, Assistant Professor, The Faculty of Energy Engineering, Aswan University

Responsibilities:

1- Participation in the control work inside and outside my college by delegating to other colleges such as the Faculty of Commerce affiliated to Aswan University to work in the organizing and showing the degrees of undergraduate students' control.

2- Teaching undergraduate and postgraduate courses inside and outside my college, as I am assigned to teach the course of Fishing Equipment and Machinery Engineering at the Faculty of Fish and Fisheries Technology at Aswan University and also teaching the courses of Turbomachines I & II at the Faculty of Engineering at South Valley University.

3- Carrying out administrative quality work for Quality Accreditation Management (QAM) as well as making specification of the courses within the department and making practicing courses in the college for the faculty members to practice them to specify the various courses in the department.

4- Carrying out other tasks assigned to me within the college, as I am a member of the project of supporting and developing the educational effectiveness in higher education institutions (SDEE), which is funded by the Ministry of Higher Education to develop educational effectiveness in the college.

5- Carrying out the other tasks assigned to me by the President of the University, as I participated as a technical member of several committees, including the various procurement committees within the university and the technical examination committees for Aswan University cars and buses.

6-Participation in the work of the sub-committees within the college, such as the Cultural Relations Committee and the Environmental Affairs Committee.

7- Member of the Mechanical Engineering Department Council, from May 2016 to November 2019.

8- Technical supervisor of the mechanical power lab at the faculty.

9- Participation in scientific training courses organized by the faculty.

10- Supervising many different graduation projects for undergraduate students in the college.

11- Supervising many different master's theses for students inside and outside the college.

12- Participation in mutual cooperation between the college and the industrial areas in the governorate and abroad.

13- Participation in the activities of the engineering advisory center at the college (solving the mechanical problems facing some colleges at the university).

14- Participation in the governorate's activities to support scientific research and innovation.

15- With COVID-19, the educational systems have been affected worldwide. Therefore, I updated different communication ways and increased my skills concerning E-Learning that could support the educational

process such as recording lectures and uploading them on the University E-learning platform using zoom or Microsoft teams. Also, I can use the University's E-learning platform for managing students' evaluations, etc.

16- I participated and worked in several research projects such as the Solar Chimney Project in Aswan, which is a research project that was installed in Aswan, Egypt with co-financed by Aswan University in Egypt and Wuppertal University in Germany, and it aims to develop and improve the performance of the Solar Chimney Power Plant (SCPP).

17- Volunteering in the annual participation in arbitration committees and support of research projects for school students in Aswan Governorate, affiliated to International Science and Engineering Fair (ISEF).

18- During my teaching career, I taught the following courses:

*Graduate and Undergraduate Courses

Turbo Machines I and II - Energy Conversions and Utilizations - Measurement Principles - Turbulent Flow - Engineering Statics and Dynamics - Engineering Drawing - Thermodynamics - Mechanical Vibrations - Fluid Mechanics I and II - Fluid Mechanics Lab - Heat Transfer - Theory of Machine - Mechanics of Machines - Engineering Materials - Heat Engine - Combustion Fundamentals - Basic Materials Technology- Fundamentals of Industrial Instrumentation and Process Control.

3- From November 13, 2022, to the present, I have worked (part time) as a top executive and technical advisor consultant in the Al-Quds Company facility that grinds mineral raw materials.

AWARDS

PROFESSIONAL RECOGNITION

PATENTS, Books ‘PUBLICATIONS

(1) Hesham Sayed Abdel-Mohsen Sayed, Improving the Performance of Regenerative Blower, ISBN: 978-613-9-90158-6, Lab Lambert Academic Publishing, Germany, 2018.

(2) Hesham Sayed Abdel-Mohsen Sayed, Energy Recovery for Humidity Control in an Air Conditioning System, ISBN: 978-613-9-93200-9, Lab Lambert Academic Publishing, Germany, 2018.

Conferences and Journals publications:

- 1- Salama M. Abdel-Hady, Soubhi A. Hassanein, Waleed A. Abdel-Fadeel, and Hesham S. Abdel-Mohsen “An Experimental Analysis of Energy Recovery for Humidity Control in Split A/C System”, *Energy and Buildings*, 11, (2011), Vol. 43, 3053–3058.
- 2- Tarek A. Mekhail, Omar M. Dahab, Mohamed F. Sadik, Mahmoud M. El-Gendi and Hesham S. Abdel-

Mohsen “Theoretical, Experimental and Numerical Investigations of the Effect of Inlet Blade Angle on the Performance of Regenerative Blowers”, *Open Journal of Fluid Dynamics*, 5, (2015), 224-237, (Google-based Impact Factor: 1).

- 3- Tarek A. Mekhail, Omar M. Dahab, Mohamed F. Sadik, Mahmoud M. El-Gendi and Hesham S. Abdel-Mohsen “Theoretical, Experimental and Numerical Investigations of the Effect of Blades Number on the Performance of Regenerative Blowers”, *International Journal of Control, Automation and Systems*, 4, (2015), Vol. 4, 25-36.
- 4- Tarek Mekhail, Mohamed Fathy, Hesham Abdel-Mohsen and Wael Elkholy, “Experimental and numerical investigations of prototype solar chimney power plant installed in Aswan-Egypt “, *6th Eur. Conf. Ren. Energy Sys. 25-27 June 2018*, Istanbul, Turkey
- 5- Haroun Hassan, Walid A. Aissa, Mohamed S. Eissa and Hesham S. Abdel-Mohsen, "Effect of HHO gas addition on the performance and emissions of SIE", *2nd International Conference of Chemical, Energy and Environmental Engineering ICCEEE 2019, 16-18 July 2019*, Alexandria, Egypt.
- 6- Tarek Mekhail, Mohamed Fathy Cidek, Hesham Sayed Abdel-Mohsen, and Ahmed Salah Mousa, “Experimental Study of Wind Turbine Blade Consists of Airfoils (NACA 63.XXX+FFA-W3)”, *International Journal of Applied Energy Systems*, Vol. 2, No. 1, Jan 2020.
- 7- Haroun Hassan, Walid A. Aissa, Mohamed S. Eissa and Hesham S. Abdel-Mohsen, “The Effect of Introducing HHO gas into the Intake Manifold of Spark Ignition Engine (SIE)”, *International Journal of Applied Energy Systems*, Vol. 2, No. 2, July 2020.
- 8- Mohamed S. Eissa, Walid A. Aissa, Haroun Hassan and Hesham S. Abdel-Mohsen, “Improving SI Engines Performance to Obtain Lower Operating Cost and Emissions Using In-situ Produced HHO Gas”, *Applications of Modelling and Simulation*, Vol 6, September 2022, 107-114.
- 9- Haroun Hassan, Walid A. Aissa, Mohamed S. Eissa, and Hesham S. Abdel-Mohsen, “Enhancement of the Performance and Emissions Reduction of a Hydroxygen-Blended Gasoline Engine Using Different Catalysts”, *Applied Energy*, Vol 326, 15 November 2022, 119979.

References:

1. **Prof. Dr. Salama M. Abdel-Hady. Mechanical Engineering Dept., Faculty of Energy Engineering, Aswan University, Aswan. Egypt.**
2. **Prof. Dr. Walid A. Aissa. Mechanical Engineering Dept., Faculty of Energy Engineering, Aswan University, Aswan. Egypt.**

- 3. Prof. Dr. Tarek A. Mekhail. Mechanical Engineering Dept., Faculty of Energy Engineering, Aswan University, Aswan. Egypt.**