

# **CURRICULUM VITAE**

## **1. PERSONAL DATA**

**Name** : Nabil Abdel Aziz MAHMOUD  
**Title** : Professor.  
**Major Specialty** : Mechanical engineering (POWER)  
**Minor Specialty** : Heat Transfer & Refrigeration and Air Condition  
**Birth Date** : 16-3-1948  
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## **2. QUALIFICATIONS**

- B.Sc. (Hons. Deg.), Cairo University, Faculty of Engineering, Mechanical Power Department, EGYPT, 1971.
- M.Sc., Ain Shams University, Faculty of Engineering, Mechanical Power Department, EGYPT, 1977.
- Ph. D., Universte de Paul Sabatier, Toulouse, FRANCE, 1982.

## **3. POSITIONS HELD**

- Emirates Professor, Ain Shams University, Faculty of Engineering, Mechanical Power Engineering Department, Cairo, EGYPT, 2010 till now
- Minster's Advisor for Technical Education - Ministry of Education, Egypt, 2008-2010
- Prime Under secretary, Ministry of Education, Head of the Technical Education Sector, Egypt, 2006 -2008.
- Professor, Ain Shams University, Faculty of Engineering, Mechanical Power Engineering Department, Cairo, EGYPT, 2005
- Associate Professor, Ain Shams University, Faculty of Engineering, Mechanical Power Engineering Department, Cairo, EGYPT, 1995 – 2005.
- Assistant Lecturer, Ain Shams University, Faculty of Engineering, Mechanical Power Engineering Department, Cairo, EGYPT, 1978-1983.
- Head of Refrigeration and Air Conditioning Technology Department, College of Technology, Burida, SAUDI ARABIA, 1987-1993, (Sabbatical Leave).
- Assistant Lecturer, Ain Shams University, Faculty of Engineering, Mechanical Power Engineering Department, Cairo, EGYPT, 1978-1983.
- Demonstrator, Ain Shams University, Faculty of Engineering, Mechanical Power Engineering Department, Cairo, EGYPT, 1972-1978.

#### **4. TEACHING EXPERIENCE**

- **Teaching undergraduate courses on:**
  - Turbomachinery
  - Measurements and Control
  - Fluid Mechanics
  - Heat Transfer
- **Teaching postgraduate courses on:**
  - Cooling Load Calculations
  - Pump Selection
  - Design and Testing of Pumping Machines
  - Maintenance of Pumping Machines
  - Pipeline Networks

#### **5. RESEARCH EXPERIENCE**

- Member of a research team working on FRCU project titled: “Utilization Of Agriculture Wastes On Fuel In Domestic Use “, (1985-1986).
- Member of a research team working on project titled: “Design and Manufacturing of a Wind Turbine 15 kW”, (1995-1998).
- Member of a research team working on project titled: “Generation of Electricity from Wave energy “, (2000-2002).
- Member of a research team working on project titled: “Pool Boiling Heat Transfer “, (2001-2004).
- Member of a research team working on project titled: “Economic of slurry transportation “, (2004-tell now).

#### **6. OTHER EXPERIENCE AND POSITIONS HELD**

In addition of holding the position of head of Refrigeration and Air Conditioning Technology Department, College of Technology, Burida, SAUDI ARABIA, during the sabbatical leave, 1987-1993, taught the following courses:

- Fundamentals of refrigeration and air condition
- Refrigeration and air conditioning systems
- Control of refrigeration and air conditioning systems
- Material Technology for refrigeration and air conditioning systems
- Water Treatment for refrigeration and air conditioning systems

## **7. LIST OF PUBLICATIONS**

### **International Publications**

1. Rezk A. A., Barakat H. Z., and **Mahmoud N. A.** “ Forced Convection Heat Transfer Around Non Circular Tubes”, HMT, The Science And Applications Of Heat And Mass Transfer, Vol.3, Heat And Fluid Flow In Power Systems Components, Pergmon Press, 1980.
2. P. Calvet, A. Giovannini, and **N. A. Mahmoud** , “Theoretical Study Of The Overlapped Air Heaters”, The Fourth International Conference For Mechanical Power Engineering, Cairo, Egypt,. 1982.
3. M. A. Noseir and N. A. Mahmoud, “ A Computer Model For Predicting The Spontaneous Ignition Phenomena”, The Fifth International Conference For Mechanical Power Engineering, Cairo, Egypt, 1984.  
A. M. El-Sebaie, K. S. Kaddah, **N. A. Mahmoud** and H. A. Sadek “ Influence Of Air-Water Flow Mixtures On The Performance Of Axial Flow Pumps.”, The Third International Congress Of Fluid Mechanics, Cairo, Egypt, Vol.1, Pp.203-215, 1990.
4. R. El\_Baz, A. Gourap, and **N. A. Mahmoud**, “ Effect Of Ventilation Air Streams On The Location Of Fire Detection Devices”, Fifth International Conference, Advances In Energy And Environment, Cairo, Egypt, Vol.1, Pp.377-395, 1996.
5. Gabr M. H., **Mahmoud N. A.**, and Salem M. I., “Minimization Of Exergy Losses For An Air-Cooled Air-Conditioning System”, Fifth International Conference On Energy and Environment, Cairo, EGYPT, Vol. 1, pp. 333-353, 1996 .
6. Noseir M. A., **Mahmoud N. A.**, and Daoud M. I., “Characteristics of Unconfined Fire-Ceiling Jet”, 11th International Mechanical Power Engineering Conference, Cairo, Pp. C11-C30, Feb., 2000.
7. Esmail M. A. A., **Mahmoud N. A.**, Hossam E. M. A. and M. I. Salem, “Freezing time calculations for various products”, International Journal of Energy Research, 27: 1117-1130, 2003.
8. Rsheed A. A., **Mahmud N. A.** and Serag A. Z., “Modeling Of The Factors Affecting The Distribution Of Chimney Emissions To The Atmosphere. Case Study: SHOBRA EL-KHEMA POWER PLANT (SEPP)”, First Ain Shams University International Conference On Environmental Engineering, ASCEE-1, pp 1433-1448, April 2005.
9. Y. S.Fangary and **N.A. Mahmoud**, "Effect of Pipe Inclination and Adding fines on Slurry Transport of Coarse Particles"12th International Conference on Applied Mechanics and Mechanical Engineering, Military Technical College , Cairo, EGYPT, Paper MP-05, pp. 298-314, 2006.
10. Shawkat M. E., **N. A. Mahmoud** and M. I. Salem, "Heat Transfer of R-134a Over Horizontal Cylinders"6th International Conference of Multiphase Flow, ICMF 2007, Leipzig, GERMANY, Paper No. 438, 2007
11. Y.S.Selima, Y.S. Fangary and **N. A. Mahmoud**, "Determination of Minimum Speed Required for Solids Suspension in Stirred Vessels", The Canadian Journal of Chemical Engineering, Vol. 86, pp. 661-666, 2008.
12. Mohamed H. Salama, Nashwa Abbas and **Nabil A. Mahmoud**, “Performance Improvement of a Cooling/Freezing System Using Variable Speed Motors and Electronic Expansion Valve”, Fifth International Conference on Energy Research & Development., (ICERD-5), April 2012

13. M. Salama, N. Mahamed, and **N. Mahmoud**, “Improving Performance of a Variable Refrigeration System Using Smart Control Technology” The First International ASHREA Conference and Exhibition on “EFFICIENT BUILDING DESIGN”, Materials & HVAC Equipment Technologies, Paper No.: ICEBD-MET-2014-14753, ASHREA, West Hall, American University in Beirut, 2-3 October, 2013
14. Ahmed M. El Baz, **Nabil A. Mahmoud**, Ashraf M. Hamed, Khald M. Youssef, “Optimization of Two and Three Rotors Savonius Wind Turbine” Proceeding of ASME Turbo Expo 2015, Turbine Technical Conference and Exposition, GT2015 – 43988, Montreal Canada, June 15-19, 2015
15. Ahmed M. El Baz, **Nabil A. Mahmoud**, Ashraf M. Hamed, Ahmed M. El holy, “Numerical Modeling of Savonius Wind Turbine with Downstream Baffle” Proceeding of ASME Turbo Expo 2015, Turbine Technical Conference and Exposition, GT2015 – 43992, Montreal Canada, June 15-19, 2015
16. Fady Emil, Aya Diab, . Ahmed El-Baz, **Nabil A. Mahmoud**, “Studying the effect of making use of daylighting on the energy consumption of a commercial building in Egypt”, Proceedings of ICFD12-EG-5020, Twelfth International Conference of Fluid Dynamics, 19-20 December, Le Méridien Pyramids Hotel, Cairo, EGYPT, 2016,
17. A. Bayoumi, M. A. Nosier, O. E. Abdelatiff, **N. A. Mahmoud**, “Modeling and Simulation of a Photovoltaic/Thermal Hybrid System Using Different Back-pipe Structures”, International Conference on Computer Engineering & Systems, Eleventh ICCES, Cairo, Egypt, 978-1-5090-3267-9/16/\$31.00 ©2016 IEEE, PP. 489-494, 20 - 21 December, 2016
18. A.R. El Sayed, M. El Morsi, **N. A. Mahmoud**, “Thermodynamic Analysis Of A Simple Refrigeration Cycle Using Hydrocarbon Refrigerants As Substitute To R22” International Journal of Advanced Engineering and Management Research, Vol. 2 Issue 2, pp. 245-274, 2017, www.ijaemr.com

### **Local Publications**

1. M. I. Salem and **N. A. Mahmoud**, “ Exergy Optimization Of Air-Cooled Water-Chiller Using Refrigerant R-22”, Scientific Bulletin Of The Faculty Of Engineering, Ain Shams University, No.18, Vol.2, Pp.189-208, 1986.
2. A. M. El-Sebaie, A. A. El-Ehwany, **N. A. Mahmoud** and A. R. El-Baz “ Heat Transfer To Air Flow In The Transition Region Through A Rectangular Diffuser”, Scientific Bulletin Of The Faculty Of Engineering, Ain Shams University, No.23, Vol.2, Pp.55-72, 1988.

3. K. S. Kaddah, R. N. Abdel-Messih and **N. A. Mahmoud** “ Performance Of A Roof Ventilator Used As Wind Turbine”, First Conference, Advances In Renewable Energy Sources, Cairo, Egypt, Vol.2, Pp.743-751, 1988.
4. A. M. El-Sebaie, **N. A. Mahmoud**, and R. N. Abdel-Messih, “Effect Of Maximum Camber On The Performance Of A Savonious Wind Turbine Having Cylindrical Blades”, First Conference, Advances In Renewable Energy Sources, Cairo, Egypt, Vol.2, Pp.753-763, 1988.
5. F. A. Rashwan, **N. A. Mahmoud** , “ Theoretical Analysis Of Combined Free And Forced Convection On A Vertical Flat Plate”, Bulltin Of The Faculty Of Engineering, Assuit University, Vol.2, Part 1, Pp.59-64, 1994.
6. **N. A. Mahmoud**, “Natural Convection Heat Transfer From An Inclined Cylinder At Low Rayleigh Number”, Engineering Research Journal, University Of Helwan, Faculty Of Engineering and Technology., Mattaria, Cairo, Egypt, Vol.1, Pp.165-175, 1995.
7. S. M. El\_Hagggar, **N. A. Mahmoud**, and T. Selim, “Economic Feasibility For Non-Mechanical Solar Pumps In Egypt”, Journal Of Engineering And Applied Science, Faculty Of Engineering, Cairo University, Vol. 43, Pp.155-170, 1996.
8. **N. A. Mahmoud**, S. M. El\_Hagggar, and T. Selim, “Experimental Investigation Of A Thermo-Syphon Non-Mechanical Solar Pump”, Renewable Energy Conference And Workshop, Cairo, Egypt, 1996.
9. Gabr M. H., **Mahmoud N. A.**, and Salem M. I., “ Minimization Of Exergy Losses For An Air-Cooled Air-Conditioning System”, First U.A.E. Conference On Air Conditioning In The GULF, U.A.E. University, Al-Ain, Pp.263-283. 1996.
10. El-Hagggar S. M.,**Mahmoud N. A.**, and Elsherbini A. I, “ Effect Of Using R-134a On A Domestic Refrigerator Originally Designed For R-12”, First U.A.E. Conference On Air Conditioning In The GULF, U.A.E. University, Al-Ain, Pp.284-293. 1996.
11. **Mahmoud N. A.**, El-Hagggar S. M., and Elsherbini A. I, “ Performance of an Air Conditioning System Using R-134a As a Refrigerant.” Arab-African Conference for Refrigeration and Air Conditioning, Cairo, Egypt, Pp. 385-409, May 2001.
12. Negm M. I., **Mahmoud N. A.**, Serag A. Z., and El-Sheemy A. N. “ An Investigation Into Natural Convection Heat Transfer In An Open Channel”, Sci. Bul. Fac. Eng. Ain Shams University, Vol. 36, No. 4, Part III, Dec. 2001.
13. **N. A. Mahmoud**, “Effect Of Grain Size And Moisture Content On The Thermal Conductivity Of Unconsolidated Porous Material”, Science Bulletin, Faculty of Engineering, Ain Shams University, Vol. 38, No. 2, Part III, 2003.
14. M. I. Salem, **N. A. Mahmoud** and M. H. Sharkawy, “Effect Of Fin Angle Of Externally Finned Tubes On Heat Transfer During Pool Boiling For R-134a” Science Bulletin, Faculty of Engineering, Ain Shams University, Vol. 39, No. 2, Part III, pp 1019-1047, 2004
15. **N. A. Mahmoud**, M. I. Salem and W. Naser, “Free Convection Heat Transfer From An Array Of Horizontal Cylinders” Science Bulletin, Faculty of Engineering, Ain Shams University, Vol. 39, No. 2, Part III, pp 931-961, 2004.
16. **N. A. Mahmoud**, “Effect of Pumping Mixtures of Coarse and Fine Particles on the Performance of Slurry Pumps” Science Bulletin, Faculty Of Engineering, Ain Shams University, Vol. 40, No. 2, Part III, pp. 647-661, 2005.
17. Y.S. Selima, Y. S. Fangary and **N. A. Mahmoud**, "Determination of minimum Speed Required for Solids Suspension in Stirred Vessels Using Pressure Measurements" Science Bulletin, Faculty Of Engineering, Ain Shams University, Vol. 41, No. 4, Part III, pp. 643-658, 2006.

18. M. M Hamdy., M. A.Nossier, **N. A. Mahmoud** and A. M. R. El-Baz, "Convection Heat transfer from A Horizontal Cylinder in Quiescent Air." Science Bulletin, Faculty Of Engineering, Ain Shams University, Vol. 41, No. 4, Part III, pp. 693-710, 2006.
19. Y.S. Selima, Y. S. Fangary and **N. A. Mahmoud**, " A technique to Determine Solids Distribution in Mixing Tanks by Using Pressure Measurements" Science Bulletin, Faculty Of Engineering, Ain Shams University, Vol. 42, No. 2, Part III, pp. 913-929, 2007.
20. H. M.Mazhar, A. M.El-Sibaie, **N. A. Mahmoud** and Ghorap A. A. E., "An Experimental Investigation of Radial Thrust and Performance of Double Volute Centrifugal Pumps", Science Bulletin, Faculty Of Engineering, Ain Shams University, Vol. 42, No. 2, Part III, pp. 849-868, 2007.
21. T.A. Mouneer, M.S. El-Morsi, M.A. Nosier and **N.A. Mahmoud**, " Heat Transfer Performance of a Newly Developed Ice Slurry Generator: A Comparative Study", Ain Shams Engineering Journal, Volume 1, Issue 2, page 147-175, December 2010 – [www.elsevier.com/locate/asuj](http://www.elsevier.com/locate/asuj), [www.sciencedirect.com](http://www.sciencedirect.com)
22. A.A. Rasheed, Y.S. Fangary and **N.A. Mahmoud**, "Apparent Viscosity Mixing Index Using CFD Computations For Non-Newtonian fluids Using Helical Ribbon Impeller", Journal of Engineering Sciences, Assiut University, Vol. 39, No. 4, pp.827-838, July 2011.
23. Mohamed H. Salama, Nashwa Abbas and **Nabil A. Mahmoud**, "Performance Improvement of a Cooling/Freezing System Using Variable Speed Motors ", Helwan University, Faculty of Engineering, Mataria, Cairo, Engineering Research Journal, (ISSN 1110-5615), vol 133, pp M33-M44, March 2012