

## CURRICULUM VITAE



### **Prof. Dr. Kamal Ahmed Abed**

Professor of Power and Energy

Mechanical Engineering Department, NRC

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### **Academic Qualifications:**

- **B.Sc.** degree in Mechanical Power Engineering, Faculty of Engineering & Technology, Suez Canal University, 1978, with grade very good (80.6%).
- **M.Sc.** degree in Mechanical Power Engineering, Faculty of Engineering, Cairo University under the title “**Investigation of the Performance of Wind Turbines with Simple Blade Shapes**”, 1986.
- **Ph.D.** degree in Mechanical Power Engineering, Faculty of Power & Aeronautical Engineering, Warsaw University of Technology under the title “**Off-Design Performance Characteristics of Turbine Stages Groups**”, 1991.

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### **Employment Information:**

- Emeritus Professor, Mechanical Engineering department, NRC, from Jan.2015 till Now.
- Head of Engineering Research Division, NRC, from Feb., 2012- 14 Jan., 2015.
- Head of Mechanical Engineering Department, NRC, 2011 – 2012.
- Head of Scientific Instruments Centre, from 2010 - 2015.
- Chair of Energy Resources and Environmental Engineering Department, Egypt-Japan University (E-JUST), 2010
- Head of Mechanical Engineering Department, NRC, 2003 – 2010.
- Professor Researcher, NRC, 2002 – 2015.
- Associate Professor, NRC, 1997 – 2002.
- Researcher, NRC, 1991 – 1997.
- Ph.D. Fellowship, Warsaw Technical University, Poland, 1987 – 1991.
- Research Assistant, NRC, 1980 – 1987.

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### **Professional Experiences:**

#### **1. Ph.D and M.Sc Supervision:**

##### **Finished Theses**

##### **A) M.SC:**

1. M.Sc., “Study of the effect of Road Roughness on the Driver and Vehicle”, Faculty of Engineering, Mansoura University, Eng, Ashraf Shaban, 1995.

2. M.Sc., "Performance Characteristics of Heat Exchangers Considering Fouling Effect", Faculty of Engineering, Cairo University, Eng. Hanan Mousa, 2003.
3. M.Sc., "Performance Characteristics of Wind Turbine Rotor with Gurney Flaps", Faculty of Engineering, Suez Canal University, Eng. Mohamed Hamam, 2009.
4. M.Sc., "Computer Monitoring and Control Unit for PV-Based Integrated Energy Systems", Faculty of Engineering, Cairo University, Eng. Ayat Adel, 2013.
5. M.Sc., "Aerodynamic Design of Flanged Diffuser Wind Turbine", Faculty of Engineering, Cairo University, Eng. Amr Elfeky, 2014.
6. M.Sc., "Effect of Some Processing Parameters on Mechanical Properties of Hollow Fiber Membranes", Faculty of Engineering, Ain Shams University, Eng. Omnya Osama, 2016.
7. M. Sc., "Investigation of the Performance of Hybrid Renewable Energy Systems", Faculty of Engineering, Banha University, Eng. Shayma Salem, 2016.
8. M.Sc., "Optimal Design of Forced Draft Counter Flow Cooling Tower", Faculty of Engineering, Cairo University, Eng. Leena Omar, 2017.
9. M.Sc., "Design of a Biodiesel Production System and the Performance of a Diesel Engine Burning the Produced Fuel", Faculty of Engineering, Al - Azhar University, Eng. Hassan Mostafa, 2017.
10. M.Sc., "Energy Management of Multi Purposes Concentrated Solar power System", Faculty of Engineering, Helwan University, Eng. Abdalla Mohamed, 2018.

### **B)Ph.D:**

1. Ph.D, "Environmental Impact on the Evaluation of using Renewable Energy Systems", Faculty of Engineering, El-Azhar University, Dr. Mohamed Nasef, 1999.
2. Ph.D, "Effect of Acoustic Energy on the Sprays Characteristics", Faculty of Engineering, Cairo University, Dr. Amal Elbery, 2001.
3. Ph.D, "Performance of Diesel Engines Burning Alternative Fuel", Faculty of Engineering, Al - Azhar University, Dr. Mohamed Saber, 2013.
4. Ph.D, "Investigation of the Performance of Composite Carbon Nanomaterials for Seawater Desalination", Faculty of Science, Mansora University, Dr. Lara Nazeem, 2015.
5. Ph.D, "Enhancement of Tribological and Rheological behavior of Commercial available Grease by Nano additive for mechanical applications", Faculty of Engineering, Cairo University, Dr. Bahaa Mostafa, 2017.
6. Ph.D, "Optimal Techno-economic Sizing of wind/PV Hybrid Renewable Energy Powered Reverse Osmosis Desalination Plant", Faculty of Engineering, Alexandria University, Dr. Hossam Kotb, 2019.

### **Running Theses:**

1. Ph.D, Faculty of Engineering, Banha University, Eng. Shima Aly Salem, 2017
2. Ph. D, Faculty of Engineering, Ain Shams University, Eng. Youmna Osam, 2018
3. Ph.D, Faculty of Engineering, Al - Azhar University, Eng. Hassan Mostafa, 2018
4. Ph.D, Faculty of Engineering, Cairo University, Eng. Leena Omar, 2018
5. Ph.D. Faculty of Engineering, Helwan University, Eng. Abdalla Mohmoud, 2019.

## **2. Consultation activities:**

The Consultation activities cover the following areas:

- Mechanical Power and Energy areas that include research and development in Power and Energy Systems,
- Renewable Energy Sources and applications (Wind Turbine, Solar Energy, Biogas, Biodiesel)
- Environmental Impacts of Energy systems,
- Hollow Fiber membranes for sea water desalination.
- Wind Turbines and Gas Turbines
- Hybrid Energy Systems (PV, Wind Turbine, Biogas, Diesel Engine, and Batteries)
- Sustainable Energy Utilization
- Cost Effective of Renewable Energy
- Energy Efficiency

## **3. Training activities:**

**Instructor of the following training programs:**

1. New and Renewable Energy Applications (Solar Energy, Wind Energy, Biogas, and Biodiesel)
2. Wind and Gas turbines as a source of Energy
3. Hydraulic Control Systems and Applications
4. Control Systems and Equipments
5. Maintenance of Steam and Gas Turbine
6. Industrial Gas Turbine
7. Gas Turbine, Operation and Troubleshooting
8. Pumps Technology
9. Air and Gas Compressors
10. Utilization of Renewable Energy in Integrated Energy Systems
11. Pumps & Engines & and Heat Exchangers
12. Energy Efficiency & Energy Saving and Auditing
13. Maintenance Management

## **4. Research Projects:**

1. "**Design and manufacture of a wind turbine**", Sponsored by N.R.C., Dokki, Giza, Egypt, 1981.
2. "**Wind test site, design and manufacture of a Wind and Solar Energy Plant and utilizing it in Sinai**", Sponsored by Scientific Research Academy, Cairo, Egypt, 1984.
3. "**Noise and Air Pollution at Cairo International Airport**", Sponsored by Scientific Research Academy, Egypt, 1993 - 1998.
4. "**Reducing Waste by Improving Quality Control**", In Misr Milk and Food Company, Mansoura and Alexandria (Edfina Factory)", Sponsored by ENTEC/EEAA SEAM, PROJECT, 1998.
5. "**Recovery of Whey from a dairy Factory for animal food**", In Misr Milk and Food Company, Damietta", Sponsored by ENTEC/EEAA SEAM, PROJECT, 1998.
6. "**Development and performance Evaluation of Air-Lift Pumps**", Sponsored by N.R.C., Dokki, Giza, Egypt, PI, 1998 -2001.

7. **“Utilization of Renewable Energy for Water Disinfection using UV”**, Sponsored by N.R.C, Dokki, Giza, Egypt, 1998 - 2001.
8. **“Utilization of Hydrogen and Natural Gas as a Fuel in Vehicles”**, Sponsored by N.R.C, Dokki, Giza, Egypt, PI, 2002-2004.
9. **“Utilization of Bio-Diesel Fuel as an Alternative fuel in Diesel Engines”**, Sponsored by N.R.C, Dokki, Giza, Egypt, PI, (2010-2013).
10. **“The Renewable Energy Research Laboratory for Academic & Industrial Purposes”**, STDF Capacity Building Grants, PI, (2012-2016).
11. **“Development and Performance Evaluation of Internal Combustion Engine Fueled by Biodiesel”**, Sponsored by N.R.C, Dokki, Giza, Egypt, PI, (2013-2016).
12. **“Design, Manufacturing and Test of a Press to Produce Oil from Egyptian Jatropha Seeds and the Performance of a Diesel Engine Burning the Produced Oil”**, Sponsored by N.R.C, Dokki, Giza, Egypt, PI, (2016-2019).
13. **“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”**. Sponsored by N.R.C, Dokki, Giza, Egypt, PI, (2019-2022).
14. **“Center of Excellence in Water Desalination Technology Membranes: Testing and Characterization”**, Sponsored by STDF, Egypt, Consultant, (2020 – 2023)

### **International Projects:**

1. **“Environmental Friendly Hybrid Energy System for Remote Areas”**, Sponsored by Egyptian Scientific Research Academy, Cairo, Egypt, and Polish Scientific Research Academy , PI, 2003-2008.
2. **“Monitoring and Dissemination of PV Data”**, Sponsored by Egyptian Scientific Research Academy, Cairo, Egypt, and Austrian Scientific Research Academy, CO-PI, 2003-2005.
3. **“Technological and Engineering Development for Production of Desalination Hollow Fiber Membranes”**, Sponsored by Ministry of International Cooperation, 2008-2016.
4. **“Cost Effective Renewable Energy for rural areas in Mediterranean region”** Sponsored by EU (MEDRES), Contract No.INCO-CT-2006-032020, PI, 2007-2009.
5. **“Novel wind-powered energy-efficient reverse osmosis plants for sustainable water desalination in rural coastal areas”**, (STDF) Cooperation between Port-said Faculty of Engineering and Sheffield University, England , Consultant, 2020-2022. .

### **5. Membership of Scientific Associations:**

- Member of the "International Energy Foundation" .
- Member of the "International Association for Solar Energy Education", (IASEE) .

### **6. Patent:**

**Patent title: Air Lift Pump & Patent Number: 23737 – 2007**

### **7. Scientific Missions:**

1. Warsaw University of Technology, Faculty of Power and Aeronautical Engineering, Poland, Ph.D student, 1987-1991.
2. Kassel University & ISET, Germany, Aug. 1998.
3. University of Science and Technology, Irbid, Jordan, March, 2006.

4. Kick-off meeting of MEDRES Project, Paris, **France**, March, 2007.
5. German Egyptian year, Kassel University & ISET, **Germany**, **2007**.
6. One year meeting of MEDRES Project, Maraksh, **Morocow**, Jan., 2008.
7. Kassel University & ISET, **Germany**, June, 2008.
8. Second year meeting of MEDRES Project, Tozeur, **Tunis**, March, 2009.
9. Third year meeting of MEDRES Project, Bilbao, **Spain**, Oct., 2009.
10. WSEAS Conferences, Tomas Bata University in Zlin, Czech Republic, Sep., 2012.
11. Policies for Sustainable Energy and Green Jobs in the MENA-Region, Dead Sea, Jordan, 26-27 March 2012.
12. SEPA-DESERTIC International Conference, in Giessen, Germany, Sept. 17-19, 2012
13. World Renewable Energy Conference, 3-8 Aug. 2014, University of Kingston, London, U.K.

### **8. International Conferences:**

1. 1<sup>st</sup> International Conference of Faculty of Engineering, Al Azhar University, 1989.
2. 3<sup>rd</sup> International Conference of Faculty of Engineering, Al Azhar University, 1993.
3. 6<sup>th</sup> International Conference of Faculty of Engineering, Cairo University, 1993.
4. World Renewable Energy Congress, Reading University, UK, Sep., 1994.
5. 12<sup>th</sup> Congress of Chemical and Process Engineering, CHISA'96, Czech Republic, Aug. 1996.
6. 5<sup>th</sup> International Conference of Faculty of Engineering, Al Azhar University, 1997.
7. World Renewable Energy Congress, Florence, Italy, Sep., 1998.
8. Arab-Africa Conference for Refrigeration and Air Conditioning, Cairo, May, 2001.
9. 12<sup>th</sup> International Mechanical Power Engineering Conference, Faculty of Engineering, Mansoura University, October, 2001.
10. Cairo International Conference on Energy and Environment, Cairo, Jan., 2003.
11. 1<sup>st</sup> International Conference of Engineering Research Division, NRC, Cairo, Jan., 2004.
12. 2<sup>nd</sup> International Conference of Engineering Research Division, NRC, Cairo, Jan., 2006.
13. World Renewable Energy Congress IX, Florence, Italy, Aug., 2006.
14. Wind Turbine Congress, ISET, Germany, Oct., 2007.
15. 4<sup>th</sup> European PV-Hybrid and Mini-Grid Conference, Greece, May, 2008.
16. 9<sup>th</sup> Conference of Engineering Faculties in Arabian Universities, Damascus University, April, 2009.
17. WSEAS Conferences, Tomas Bata University in Zlin, Czech Republic, Sep., 2012.
18. Policies for Sustainable Energy and Green Jobs in the MENA-Region, Dead Sea, Jordan, 26-27 March 2012.
19. SEPA-DESERTIC International Conference, in Giessen, Germany, Sept. 17-19, 2012.  
World Renewable Energy Conference (WREC XIII) , 03-08 Aug. 2014, University of Kingston, London, U.K.

### **9. Teaching:**

- A) Teach the following courses in Faculty of Engineering, Fayoum University, Egypt:
- |                                       |                                |
|---------------------------------------|--------------------------------|
| 1. Feasibility Study                  | 2. Mechanical Vibrations       |
| 3. Automatic Control Systems          | 4. Account of Industrial Costs |
| 5. Refrigeration and Air Conditioning |                                |

B) Teach the following Courses in Egypt-Japan University of Science and Technology, (EJUST):

1. Sustainable Energy Utilization
2. Renewable Energy and Climate Change.
3. Wind Turbines

C) Teach the following Courses in Higher Technological Institute, (HTI), 6<sup>th</sup> October Branch:

1. Engineering Economy
2. Engineering Drawing
3. Technical Writing
4. History of Engineering and Technology
5. Heat Transfer Equipment
6. Industrial engineering

### تحكيم رسائل ماجستير:

- |        |                                    |                            |
|--------|------------------------------------|----------------------------|
| 1995 – | - كلية الهندسة – جامعة المنصورة    | 1- م/ أشرف شعبان           |
| 2003 – | - كلية الهندسة – جامعة القاهرة     | 2- م/ حنان السيد موسى      |
| 2009 – | - كلية الهندسة – جامعة قناة السويس | 3- م/ محمد همام            |
| 2013 – | - كلية الهندسة – جامعة القاهرة     | 4- م/ آيات عادل راغب       |
| 2016 – | - كلية الهندسة – جامعة عين شمس     | 5- م/ أمنية أسامة          |
| 2016 – | - كلية الهندسة – جامعة بنها        | 6- م/ شيماء على سالم       |
| 2017 – | - كلية الهندسة – جامعة بنها        | 7- م/ توفيق محمد توفيق     |
| 2017 – | - كلية الهندسة – جامعة القاهرة     | 8- م/ ليلى عمر             |
| 2017 – | - كلية الهندسة – جامعة الأزهر      | 9- م/ حسن مصطفى            |
| 2018 – | - كلية الهندسة – جامعة القاهرة     | 10- م/ شروق عبد الكريم     |
| 2018 – | - كلية الهندسة – جامعة حلوان       | 11- م/ عبد الله محمد شعبان |
| 2019 – | - كلية الهندسة – جامعة القاهرة     | 12- م/ محمد على محمود      |

### تحكيم رسائل دكتوراة:

- |        |                                   |                             |
|--------|-----------------------------------|-----------------------------|
| 1999 – | - كلية الهندسة – جامعة الأزهر     | 1- د/ محمد ناصف الكردى      |
| 2001 – | - كلية الهندسة – جامعة القاهرة    | 2- د/ أمل البرى             |
| 2013 - | - كلية الهندسة – جامعة الأزهر     | 3- د/ محمد صابر جاد         |
| 2015 - | - كلية العلوم - جامعة المنصورة    | 4- د/ لارا نزيه             |
| 2017 - | - كلية الهندسة – جامعة القاهرة    | 5- د/ بهاء مصطفى كامل       |
| 2018 - | - كلية الهندسة – جامعة القاهرة    | 6- د/ محمد محمود عبد المطلب |
| 2019 - | - كلية الهندسة – جامعة الأزهر     | 7- د/ سامى إبراهيم عطيه     |
| 2019 - | - كلية الهندسة – جامعة الإسكندرية | 8- د/ حسام قطب              |

## **10. List of Publications:**

### **i) International Journals:**

1. **K. A. Abed**, J. Lewandowski, and A. Miller, "Attempt of Generalization of Flow Capacity Characteristics of Impulse Type Turbine Stages Groups, Zeszyty Naukowe Politechniki Lodzkiej Nr 674, Ciepne Maszyny Przeplywowe Z. 103, pp. 285 – 297, 1992.
2. **K. A. Abed**, A. Miller, and J. Lewandowski, " Performance Characteristics of Impulse Type Turbine Stages Groups, Warsaw University Journal , The archive of Mechanical Engineering, PL ISSN 0004 --0738, Vol. XLII, 3-4, PP. 211-231, 1995,.
3. **K. A. Abed**, " Performance of a Wind- Turbine - Driven Compressor for Lifting Water", Energy Journal , Vol. 22, No. 1, pp. 21-26, 1997.
4. **K. A. Abed** and A.A. El-Mallah, " Capacity Factor of Wind Turbines", Energy Journal, Vol.22, No. 5, pp. 487-491,1997.
5. A. Miller, J. Lewandowski, Z. Trzcinska, and **K. A. Abed**, "Generalized Performance Characteristics of Turbine Stage Groups", Warsaw University Journal, The Archive of Mechanical Engineering, Vol. XLVII, pp. 33-52 , PL ISSN 0004-0738, Poland, 2000.
6. M. N. El-Kordy, **K. A. Abed**, M.A. Badr, A. El-Mallah, and S.M.A. Ibrahim, "Economical Evaluation of Electricity Generation Considering Externalities", Renewable Energy Journal , Vol. 25, pp 317-328, 2002.
7. **K. A. Abed**, "Operational Criteria of the Performance of Air-Lift Pumps", Journal of the Indian Institute of Engineers, Vol. 84, pp. 1-6, 2003.
8. **K. A. Abed**, "Performance Estimation of Axial Flow Reaction Turbine", Journal of The Institution of Engineers (India), Vol.84, pp. 7 -12, April 2003.
9. S. M. A. Ibrahim, **K. A. Abed**, M. S. Gad, "Experimental Investigation of Diesel Engine Performance Burning Preheated Jatropha Oil", World Applied Sciences Journal 31(7): 1231-1236, 2014.
10. S. M. A. Ibrahim, **K. A. Abed**, M. S. Gad, "An Experimental Investigation of Diesel Engine Performance Using Jatropha Biodiesel", World Applied Sciences Journal, Vol. 31(7), PP. 998 - 1003, 2014.
11. S.M.A. Ibrahim, **K. A. Abed**, M.S.Gad, "An analytical Investigation of Diesel Engine Performance Using Biodiesel and Preheat Jatropha Oil", International Journal of Engineering & Science, ISSN: 2077-1185 (Online), December, 2014.
12. L.A.Nezam El-Dein, A. Al-Gendi, N.Ismail, **K. A. Abed**, and Awad I. Ahmed, "Evaluation of Cellulose Acetate Membrane with Carbon Nanotubes Additives", Journal of Industrial & Engineering Chemistry, Vol. 26, pp. 259-264, 2015.
13. **K. A. Abed**, M.A.Badr, and Enas R. Shouman, " Cost Analysis Of Energy Efficient Domestic Refrigerators", International Research Journal of Electronics & Communication Engineering (IRJECE), ISSN 2395-0587, Vol.1, Issue 4, PP.8-18, May, 2015.
14. F. Owis, M.T.S Badawy, **K. A. Abed**, H.E. Fawaz, and Amr Elfeky, "Numerical Investigation of Loaded and Unloaded Diffuser equipped with a Flange", International Journal of Scientific & Engineering Research , ISSN 2229-5518, Vol. 6, Issue 11, PP.312- 341,November, 2015.

15. Bahaa M. Kamel, Alaa Mohamed, M. El Sherbiny & **K.A. Abed** , "Rheology and Thermal Conductivity of Calcium Grease Containing Multi-Walled Carbon Nanotube", Fullerenes, Nanotubes and Carbon Nanostructures, Taylor & Francis Group, ISSN 1536-383x, Vol. 24, NO.4, PP. 260-265, 2016.
16. **K.A.Abed**, M.A.Badr , A. Bahgat, , M.El-Bayoumy, and A.A. Ragheb, "Experimental Results of PV-Diesel Hybrid Energy system, International Journal of Applied Engineering Research ISSN 0973-4562, Vol.11, Number 2, PP. 1471-1477, 2016.
17. Bahaa M. Kamel, Alaa Mohamed, M. El Sherbiny and **K. A. Abed** , "Tribological behavior of Calcium Grease containing Carbon Nonotubes Additives", Industrial Lubrication and Tribology Journal, ISSN 0036-8792, Vol. 68, NO.6, PP. 723-728, 2016.
18. Farouk K. EL-Baz, M. S. Gad, Sayeda M. Abdo, **K. A. Abed**, and Ibrahim Matter, "Performance and Exhaust Emissions of a Diesel engine Burning Algal Biodiesel Blends", International Journal of Mechanical & Mechatronics Engineering, IJMME – IJENS Vol. 16 , No. 03, PP. 151- 158, 2016.
19. Said M.A. Ibrahim, **K.A.Abed**, M.S.Gad, and H.M. Abu Hashish," Optimum Oil Yield from Egyptian Jatropha Seeds Using Screw Press", International Journal of Mechanical & Mechatronics Engineering IJMME-IJENS, Vol.17, No.1,pp. 47-56, Feb. 2017.
20. Bahaa M. Kamel, Alaa Mohamed, M. El Sherbiny , **K.A. Abed** , and M. Abd-Rabou, "Tribological properties of grapheme Nonosheets as an Additive in calcium grease", Journal of Dispersion science and Technology, ISSN 1532-2351, Vol. 38, No. 10, pp1495-1500, 2017.
21. Bahaa M. Kamel, Alaa Mohamed, M. El Sherbiny, **K.A. Abed** and M. Abd-rabou, " Rheological Characteristics of Modified Calcium Grease with Graphene Nanosheets", Fullerenes, Nanotubes and Carbon Nanostructures, Taylor & Francis Group, Issue 7, Vol.25, 2017.
22. **K. A. Abed**, M. Moawed , H. A. Refaey, and SH. A. Salem," Techno - Economic Study of Hybrid Renewable Energy System for Remote Area in Sinai", Journal of Scientific and Engineering Research, (JSER),ISSN:2394-2630, Vol. 4, Issue 4, PP. 366-376, 2017.
23. Shadia R. Tewfik, Abdel Ghani M.G. Abulnour, Hayam F. Shaalan, Mohamed I. El-Anwar, Sahar S. Ali, **K. A. Abed**<sup>2</sup>, Mervat A. Badr and Mohamed H. Sorour, " Analysis of Some Engineering Parameters Relevant to the Performance and Reliability of Hollow Fiber Spinning System", ARPN Journal of Engineering and Applied Sciences, Vol. 12, No. 15, ISSN 1819-6608, PP. 4574- 4587, August 2017.
24. **K. A. Abed** , N. El Mahalawy, , M.H. Sorour, M.A. El-Bayoumi, Y.O. Mostafa, "Microwave Post-Treatment of PES Hollow Fiber Membranes immersed in NaCl Solution", Journal of Scientific and Engineering Research, (JSER),ISSN:2394-2630, Vol. 4 , Issue 9, 2017.
25. Said M.A. Ibrahim, **K.A.Abed**, M.S.Gad, and H.M. Abu Hashish,"Comparison of Different Methods for Producing Bio oil from Egyptian Jatropha Seeds", Biofuels Journal, Taylor & Francis Group, ISSN: 1759-7269,PP.1-12, Oct., 2017.
26. **K. A. Abed**, A. Bahgat, M.A.Badr, M.El-Bayoumy, and A.A. Ragheb, "Experimental Study of Battery State of Charge Effect on Battery Charging/Discharging Performance and Battery Output Power in PV Energy System", ARPN Journal of Engineering and Applied Sciences, ISSN:1819-6608, Vol.13. No.2,PP.739-745, 2018.
27. M.S.Gad, R.El-Araby, **K.A.Abed**, N.N.El-Ibiari, A.K. El Morsi, and G.I. El\_Diwani, "Performance and Emissions Characteristics of C.I. Engine Fueled with Palm Oil/Methyl Ester Blended with Diesel Fuel", Egyptian Journal of Petroleum (EGYJP), Vol. 27, PP. 215-219, 2018.



28. **K. A. Abed**, Akila K. Elmorsi, Mahmoud M. Sayed, Abd El Hamid El Shaib, M.S. Gad, "Effect of Waste Cooking-oil Biodiesel on Performance and Exhaust Emissions of a Diesel Engine", Egyptian Journal of Petroleum (EGYJP), pp. 985-989, Vol. 27, 2018.
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29. **K. A. Abed**, Amr M. A. Amin, Adel A. El-Samahy, and Abdullah M. A. Shaaban, "Modeling and Simulation of Multi Purposes Concentrated Solar Power System", European Journal of Advances in Engineering and Technology, 5(6): PP. 375-385, 2018.
30. **K. A. Abed**, E.E. Khalil, A. M. Abouel-Fotouha, G. El-Hariry, and L.O. Abd El Salama, "Optimal Design of a Counter Flow Cooling Tower using PSO algorithm for operating cost minimization", Applied Thermal Engineering, Vol. 143 , PP.149-159, 2018.
31. **K. A. Abed**, M. S. Gad, A. K. El Morsi, M. M. Sayed and S. Abu Elyazeed, "Effect of Biodiesel Fuels on Diesel Engine Emissions", Egyptian Journal of Petroleum (EGYJP), Vol. 28, PP.183-188, (2019).
32. A. Hossam –Eldin, **K.A.Abed**, K. Youssef, and H. Kotb, "Experimental Investigation of Energy Consumption and Model Identification of Reverse Osmosis Desalination System Fed by Hybrid Renewable Energy Source under Different Operating Conditions", IEEJ Transactions on Electrical and Electronic Engineering, Vol.14, No.9, pp.1271– 1277, DOI: 10021/tee.22943, 2019.
33. A. Hossam –Eldin, **K.A.Abed**, K. Youssef, and H. Kotb "Techno-economic optimization and new modeling technique of PV-wind-reverse osmosis desalination plant at variable load conditions" , International Journal of Environmental Science and Development, Vol. 10,No. 8, PP.223-230, August 2019.
34. **K. A. Abed**, Amr M. A. Amin, Adel A. El-Samahy, and Abdullah M. A. Shaaban, "Energy Management of Solar Thermal Energy Driving ORC and TDC", World Journal of Engineering Research and Technology (WJERT), Vol. 5, Issue 2, PP.168-186, ISSN 2454-695X, 2019.
35. N. Ismail, , A. Al-Gendi, Hisham Essawy, L.A.Nezam El-Dein, , **K. A. Abed**, and Awad I. Ahmed, " Impact of Graphene / Graphene Oxide on the Mechanical Properties of Cellulose Acetate Membrane and Promising Natural Seawater Desalination", Journal of Polymer Engineering (J POLY ENG), Vol.39, Issue 9, PP. 794-804, Sept. 2019.
36. Said M. A. Ibrahim, **K.A. Abed** , M.S. Gad , and H.M. Abu Hashish, "Experimental Study on the Effect of Preheated Egyptian Jatropha Oil and Biodiesel on the Performance and Emissions of a Diesel Engine", International Journal of mechanical & Mechatronics Engineering IJMME-IJENS, Vol.20, No.1, PP.59-69, Feb. 2020.

## **ii) National Journals:**

1. A. El-Mallah, and **K. A. Abed**, " Optimum Selection of Wind Energy Pumping Systems", Journal of the Egyptian Society of Engineers, Vol. 33, No. 4, pp. 22-24, 1994.
2. **K. A. Abed**, M. Badr and A. El- Mallah," Off - Design Performance of Small Wind Turbine", Journal of the Egyptian Society of Engineers, Vol. 34, No. 1, pp. 31-34, 1995.
3. A. Shaaban, Y. Abo-Mossalam, **K. A. Abed**, and N. El-Chazly, "The effect of Vehicle Suspension System Components on the Ride Comfort due to Road Roughness", Mansoura Engineering Journal, Faculty of Engineering, Mansoura University, Vol. 20, No. 4, p.28-37, 1995.
4. **K. A. Abed**," Theoretical Study on the Performance of Air-Lift Pumps", Journal of the Egyptian Society of Engineers, Vol. 35, No. 1, pp. 14 -18, 1996.
5. A. A. El-Mallah, **K. A. Abed** and M. A. Badr," Effect of using Renewable Energy Sources on the Reduction of CO2 Emission", Journal of the Egyptian Society of Engineers, Vol. 35, No. 3, pp. 38-41,1996.
6. **K. A. Abed**, "Energy Storage in Compressed Air", Journal of the Egyptian Society of Engineers, Vol. 35, No.2, pp. 46-49, 1996.
7. M. A. Ziada, **K. A. Abed**, and A. El-Mallah, "Simulation of the Flow pattern in Air Cushion Plenum Chambers", Journal of the Egyptian Society of Engineers, Vol. 37, No.2, pp. 36-44, 1998.
8. **K. A. Abed**, "Optimization of the Performance Characteristics of Air-Lift Pumps", Journal of the Egyptian Society of Engineers, Vol. 39, No. 1, pp.29-33, 2000.
9. **K. A. Abed**, "Investigation of Flow Capacity Characteristics of Axial Flow Reaction Turbine, Journal of the Egyptian Society of Engineers, Vol. 39, No. 2, pp.43-50, 2000.
10. M. N. El-Kordy, M.A. Badr, **K. A. Abed**, A. El-Mallah, and S.M.A. Ibrahim, "Environmental Impacts Assessment Matrices for Electricity Generation Systems ", Journal of the Egyptian Society of Engineers, Vol.40, pp.31-38, 2001.
11. **K. A. Abed**, "Experimental Investigation of the Performance of Air – Lift Pumps", Journal of the Egyptian Society of Engineers, Vol. 40, No.3, pp. 19-23, 2001.
12. **K. A. Abed**, M.A. Badr, M. N. El-Kordy, A. El-Mallah, and S.M.A. Ibrahim, "Airborne Emissions from Wind Energy Converters and Photovoltaic Life Cycle", Eng. Research Journal, Minoufiya University, Vol. 32, No. 3, PP.329 – 337, 2009.
13. **K. A. Abed**, M.A. Badr, and A. El-Mallah, " Investigation of Socio – Economic and Energy Indicators in the Context of Sustainable Development": Egyptian Case Study, Eng. Research Journal, Minoufiya University, Vol. 32, No. 3, PP.319 – 328, 2009.
14. S. M. A. Ibrahim, **K. A. Abed**, M. Saber, "Performance and Emission for Diesel Engines Burning Biodiesel Fuel", Journal of Al Azhar University Engineering Sector (JAUES), 2013.
15. S. M. A. Ibrahim, **K. A. Abed**, M. Saber, "Theoretical Investigation of the Performance of Diesel Engines Fueled by Biodiesel", Journal of Al Azhar University Engineering Sector (JAUES), 2013.
16. **K. A. Abed**, M. Moawed , H. A. Refaey, and SH. A. Salem," Economic Sizing of a Hybrid Renewable Energy system for stand – alone usage: Egyptian case study, Engineering Research Journal Faculty of Engineering at Shoubra, ISSN:1687-1340, Vol. 30, pp. 42-54, Oct. 2016.

17. Said M. A. Ibrahim, **K.A. Abed**, M.S. Gad, H.M. Abu Hashish, "Design, Manufacturing and Testing of a Hydraulic Press to Produce Oil from Egyptian Jatropha Seeds", Journal of International Society for Science and Engineering , Vol. 1, No. 1, 25-32 (2019).
18. Said M. A. Ibrahim, **K.A. Abed**, M.S. Gad, H.M. Abu Hashish, "Characteristics of extracted by Screw Press from Egyptian Jatropha Seeds", Journal of International Society for Science and Engineering , Vol. 1, No. 2, 81- 90 (2019).

### **iii) International Conferences:**

1. A. Mobarak, A. El-Mallah, and **K. A. Abed** ," Experimental Investigation on Low Cost Blading of Horizontal Axis Wind Turbine" , Solar Energy Prospect in the Arab World , Second Arab International Solar Energy Conference, Bahrain, pp. 276-281 , Feb. 1986.
2. A. Mobarak, A. El-Mallah and **K. A. Abed**," On the Performance of multi-bladed Wind Turbine Rotors", International Symposium on Application of Solar and Renewable Energy, ASRE 86, Cairo, Egypt, March, 1986.
3. **K. A. Abed** and A. Miller," Attempt of Generalization of the Influence of Rotational Speed Changes on Mass Flow Rate of Turbine Stages Groups", Al-Azhar Engineering First International Conference, Cairo, Egypt, Vol. (13), pp. 193 -205, Dec. 1989.
4. A. Miller, J. Lewandowski and **K. A. Abed**, " Steady State Characteristics of Combined Gas-Steam Set with Fluidized Bed Boilers", Al- Azhar Engineering 1st International Conference, Cairo, Egypt, Vol. (13), pp. 73-84, Dec. 1989.
5. **K. A. Abed**, J. Lewandowski, and A. Miller, "Trial Generalization of Characteristics of Turbine Stages Groups with a Chamber Structure", International Conference (SYMKOM), Lodz, Poland, pp. 285-297, Oct., 1991.
6. **K. A. Abed** and A. Miller, "Investigation of the Efficiency of the Stages Groups of Impulse Turbine ", Al-Azhar Engineering third International Conference, Cairo, Egypt, pp. 215-226, Dec. 1993.
7. **K. A. Abed**," Variable Speed Operation of Small Scale Wind Turbines", World Renewable Energy Congress, Reading, U.K, pp. 2025-2028, Sept., 1994.
8. A. Miller, J. Lewandowski, **K. A. Abed**, " A Contribution to the Flugel's - Stodola's Law for Flow Capacity of Turbine Stages Group", First European Conference, Turbomachinery Fluid Dynamic and Thermodynamic Aspects, Erlangen, March 1-3, 1995, pp. 391-405, VDI BERICHTE 1185, Dusseldorf , ISSN 0083-5560, ISBN 3-18-091185-9, 1995.
9. **K. A. Abed** and A.A. El-Mallah," Investigation of the Performance of Air-Lift Pumps",12th International Congress of Chemical and Process Engineering, CHISA'96, Czech Republic, 25-30 August, 1996.
10. A. Shabaan, **K. A. Abed**,Y. Abo-Mossalam and N. El-Chazly, "Investigation of the Effect of Vibration on Man and Car due to Road Roughness", sixth Cairo University International Conference (MDP), Faculty of Engineering, Cairo University, pp. 439-447, Jan. 2-4, 1996.
11. **K. A. Abed**, "Energy Storage in Compressed Air", Journal of the Egyptian Society of Engineers, Vol. 35, No.2, pp. 46-49, 1996.
12. S.M.A. Ibrahim, M. N. El-Kordy, M.A. Badr, **K. A. Abed**, and A. El-Mallah, "Environmental Impact Evaluation of wind Energy Exploitation ",World Renewable Energy congress V, Florence, 20-25 September 1998.

13. M. A. Fouad, A. A. Mostafa, **K. A. Abed**, N. M. El-chazly and A. A. El Berry, "Effect of Acoustic Excitation on Spray Characteristics Produced by Atomizers in Air Handling Units (AHU)", Arab – Africa Conference for Refrigeration and Air Conditioning, Cairo, Egypt, pp. 47-58, 29<sup>th</sup> April- 1<sup>st</sup> May , 2001.
14. M. A. Fouad, A. A. Mostafa, **K. A. Abed**, N. M. El-chazly and A. A. El Berry, " Spray Droplet size Characterization Considering Acoustic Perturbation", 12<sup>th</sup> International Mechanical Power Engineering Conference, Mansoura University, 30 October – 1<sup>st</sup> November, pp.55-65, Mansoura, Egypt , 2001.
15. **K. A. Abed**, M.A. Badr, M. N. El-Kordy, A. El-Mallah, and S.M.A. Ibrahim, "Airborne Emissions from Wind Energy and Photovoltaic Life Cycle", Cairo International Conference on Energy and Environment, Cairo, Egypt, Jan. 4-7, 2003.
16. **K. A. Abed**, M.M. Fouad, A.M. Abouel Fotouh, and H.S. Moussa, "Performance Characteristics of Shell and Tube Heat Exchanger", Engineering Research Division 1<sup>st</sup> International Conference, National Research Centre, Cairo, 3-6 January, 2004.
17. **K. A. Abed** and M.A. Badr," Off – Design Performance Characteristics of Wind Turbines", World Renewable Energy Congress IX, Florence, Italy, 19 – 25 August 2006.
18. **K. A. Abed**, M.A. Badr, A.A. El-Mallah , and M. I. El-Anwar, " Optimal Design of Hybrid Systems with Battery Storage", Fourth European PV- Hybrid and Mini-Grid Conference, Greece, May 29-30, 2008.
19. A. M. Alam El-Din, I. A. El-Sawaf, **K. A. Abed** and M. M. Hammam , "Investigation of the Performance of Horizontal Axis Wind Turbines Equipped with Gurney Flaps" , Ninth Conference of Engineering Faculties in Arabian Universities, Damascus University, 13-14 April 2009.
20. **K. A. Abed**, M.A. Badr, and A. El-Mallah, "Measuring the Impact of Electrification on Socio-economic Development in Rural Areas", Egyptian Case Study, SEPA-DESERTIC International Conference, in Giessen, Germany, Sept. 17-19, 2012.
21. **K. A. Abed**, A.A. El-Mallah, M.A.Badr, "Energy Efficiency uses in Peri-Urban Regions, Egyptian Case Study", Advances in Environment, Biotechnology and Biomedicine, ISBN: 978-1-61804-122-7, PP.75-80, 2012.
22. **K. A. Abed**, A. Bahgat, M.A.Badr, M.El-Bayoumy, and A.A. Ragheb, Experimental Results of Computer Monitoring of PV- Based Energy system, World Renewable Energy Conference (WREC XIII) , University of Kingston, London, U.K, 03-08 Aug. 2014.
23. N. El Mahalawy, **K. A. Abed**, M.H. Sorour, M.A. El-Bayoumi, Y.O. Mostafa, "Experimental Investigation on Polyethersulfone (PES) Hollow Fiber Membranes Post-Treatment Using Microwave Heating", Product Development and Innovation Conference, Ain-Shams University, 3-5 May, 2016.
24. S. R. Tewfik, A. G. M. G. Abulnour, H. F. Shallan, M. Elanwar, S. S. Ali, **K. A. Abed**, M. A. Badr, and M. H. Sorour, "Analysis of some Engineering Parameters relevant to the Performance and Reliability of Hollow Fiber Spinning System", 22<sup>nd</sup> International Congress of Chemical and Process Engineering (CHISA), Prague, Czech Republic, 27-31 August 2016.
25. **Abed, K.A.**, Mahallawy, N., Sorour, M.H., Elbayoumi, M., & **Mostafa, Y.O.** (2016), "Experimental Investigation on Polyethersulfone (PES) Hollow Fiber Membranes Post-Treatment Using Microwave Heating", Conference: 1st International Joint Symposia on "Product Development and Innovation" and "Industrial Systems and Operations Management", Ain Shams University (May 2016)

26. F. Owis, M.T.S Badawy, H.E. Fawaz, **K. A. Abed**, and Amr Elfeky, "Numerical Simulation of Flow Field for Flanged Diffuser Wind Turbine", Arab International Industrial Conference, Cairo, 6-8 May 2018.
27. **K. A. Abed**, E.E. Khalil, A. M. Abouel-Fotouha, G. El-Hariryb, and L.O. Abd El Salama, "Parametric Analysis for a Forced Draft Counter Flow Cooling Tower", Arab International Industrial Conference, Cairo, 6-8 May 2018.
28. N. El Mahalawy, **K. A. Abed**, M.H. Sorour, M.A. El-Bayoumi, Y.O. Mostafa, "Effect of Microwave Post-Treatment on PES Hollow Fiber Membranes", Arab International Industrial Conference, Cairo, 6-8 May 2018.
29. A. Hossam –Eldin, **K.A.Abed**, K. Youssef, and H. Kotb, "Techno-Economic Optimization and New Modeling Technique of PV-Wind- Reverse Osmosis Desalination plant at variable load conditions", ICEII 2019, April 25-28, Bangkok, Thailand, 2019.

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