

Curriculum Vitae
Prof. Dr. Ahmed Farouk Abdel Gawad

Updated December 2014



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1. Overview

1. **Professor** of Computational Fluid Mechanics, Mechanical Power Engineering Department, Faculty of Engineering, Zagazig University, Zagazig, Egypt.

Currently: College of Engineering and Islamic Architecture, Umm Al-Qura University, Makkah, Saudi Arabia.

2. Ph.D.:

- Mechanical Power Eng. Dept., Faculty of Eng., Zagazig University, Zagazig, EGYPT, September, 1998.
- **Channel system:** Virginia Polytechnique Institute & State University, Blacksburg, Virginia, USA.
- Dissertation title: "Computation of Turbulent Flow and Heat Transfer in Rotating Non-Circular Ducts".

3. Fellow:

- International Energy Foundation (*IEF*), Melbourne, Australia.

4. Associate Fellow:

- American Institute of Aeronautics and Astronautics (*AIAA*).

5. Member:

- American Society of Mechanical Engineers (*ASME*).
- American Chemical Society (*ACS*).
- Society for Industrial and Applied Mathematics (*SIAM*).
- The American Association for the Advancement of Science (*AAAS*).

6. Biographical data listed in many editions of:

- **Marquis Who's Who, USA:**
 1. Emerging Leaders.
 2. In Science and Engineering.
 3. In the World.
- **International Biographical Centre (*IBC*)**, Cambridge, England.
- **The American Biographical Institute (*ABI*)**, USA.

7. **Evaluator in the Egyptian national scientific committee** of "Mechanical Power Engineering, Motor Vehicles, and Aviation "for the promotion of Faculty Members to the degree of Professor and Associate Professor, Eleventh round, Jan. 2013-Dec. 2015.
8. **General Coordinator, Session Chairman, "Eighth, Ninth, Tenth, Eleventh International Congress of Fluid Dynamics (ICFD8-9-10-11)"**, 2006, 2008, 2010, 2013, Egypt. The conference is co-organized by American Society of Mechanical Engineers (ASME) and Egyptian Universities.
9. **Reviewer:** (49 Journal papers, 37 Conference papers, 16 Research Projects)
 - ASME Journals:
 - Journal of Electronic Packaging.
 - Journal of Heat Transfer.
 - Journal of Fluids Engineering
 - Chinese Journal of Aeronautics (*CJA*).
 - Elsevier Journals (Computers & Fluids).
 - International Journal of Engineering Systems Modelling and Simulation (*IJESMS*).
 - Umm Al-Qura University Journal for Engineering and Architecture (*UQU-UJEA*).
 - Journal of Energy and Power Engineering (*JEPE*).
 - Transaction on Control and Mechanical Systems (*TCMS*).
 - Comprehensive Research Journal of Education and General Studies (*CRJEGS*).
 - International Journal of Numerical Methods for Heat and Fluid Flow (*IJNMHFF*).
 - American Journal of Energy Research (*AJER*).
 - American Journal of Mechanical Engineering (*AJME*).
 - Journal of Scientific Research and Studies (*JSRS*).
 - International Association of Journals and Conferences (*IAJC*).
 - International Research Journal of Public and Environmental Health (*IRJPEH*)

- Issues in Business Management and Economics (*IBME*).
- Journal of Energy and Power Sources (*JEPS*).
- American Journal of Marine Science (*AJMS*).

- ◇ Evaluator of Research Projects submitted for funding at "King Abdulaziz University in Jeddah (*KAU*)", Saudi Arabia, Academic years 2011-2012, 2012-2013, 2013-2014, 2014-2015.
- ◇ Evaluator of Research Projects submitted for funding at "Taif University", Saudi Arabia, Academic year 2011-2012.

10. Member of Mechanical Engineering Department, College of Engineering and Islamic Architecture, Umm Al-Qura University, Makkah, Saudi Arabia. **Department is awarded the international six-year accreditation of the "Accreditation Board for Engineering and Technology (*ABET*)"**, August 2012.

11. ASME Student Section Advisor, Mechanical Engineering Department, College of Engineering and Islamic Architecture, Umm Al-Qura University, Makkah, Saudi Arabia.

12. Part-time Consultant "Fakieh Research & Development Center", Makkah, Saudi Arabia.

13. Manager of the project "Automation of Zagazig University Libraries", Project Management Unit (PMU), Supreme Council of Universities, Egypt from May 2007 to April 2009.

14. Head of Evaluation Unit (a sub-unit of the Unit of Quality Assurance & Accreditation), Faculty of Engineering, Zagazig University, Egypt, from January 2005 to January 2010.

15. Member of the evaluation committee of "Nahdet El Mahrousa's Young Innovators' Awards (*YIA*) program", Egypt.

16. Member of the evaluation committee of "Samsung Real Dreams Awards (*SRDA*) Program", organized by "Nahdet El Mahrousa's Young Innovators' Awards (*YIA*) program" in partnership with Samsung, Egypt, 2009, 2010.

17. Partner of a research project that is supported by "King Abdulaziz City for Science and Technology, *KACST*", Saudi Arabia, Project Title: "An

Investigation of the Initiation, Maintenance and Stability of the Halocline underlying the Operation of Solar Ponds: Application to the Construction and Operation of an Experimental Solar Pond", May 2013-till now.

- 18. Member of a project research team** that is funded by the **Tempus Scheme** from the **European Union**. Project title is "Development of an Industry-Linked Mechatronics Program with Training of Trainers (*DIMPTOT*)". *TEMPUS* project (*JEP* – 33108 – 2005), (Finished my role in the project in December 2008).
- 19. Member of a project research team** that received funding from the **United States Agency for International Development (USAID)** under the University Linkages Grant II. Project title is "Computer-Based Expert System for Gas Reforming and Turbomachinery Utilities - Operation and Preventive and Predictive Maintenance", (Finished Sept. 1, 2002).
- 20. Member of a project research team** that is funded by **Office of Naval Research (ONR), USA**. Project title is "Optimum Design of Hydrofoil Systems", Virginia Polytechnic Institute and State University (Virginia Tech), USA, My role in the project was from July 1999 to September 1999.
- 21. Member of a project research team** that is funded by **Office of Naval Research (ONR), USA**. Project title is "Nonlinear Active Control of Dynamic Systems", *MURI*, Multi-University Research Initiative, Grant No. N00014-96-1-1123". Virginia Polytechnic Institute and State University (Virginia Tech), USA. My role in the project was from January 1997 to April 1998.
- 22. Sixty-six published Papers** in international journals and conferences.
- 23. Citation** in many International **Text Books, Ph.D. Dissertations, M.Sc. Thesis, Journals, Conferences and Technical Reports**.
- 24. Twenty-Two Conferences** attended.
- 25. Twenty-Eight Workshops** attended.
- 26. Supervision of Four Ph.D. Dissertations** (3 finished).
- 27. Supervision of Thirteen M.Sc. Thesis** (9 finished).
- 28. Supervision of Thirty-Eight B.Sc. Graduation Projects**.

- 29.Member** of two teams of **Six Patents** (USA, Canada, Japan).
- 30.Member** of the **Editorial Board** of "Umm Al-Qura University Journal of Engineering and Islamic Architecture (*UQU-UJEA*)", Umm Al-Qura University, Makkah, Saudi Arabia, November 2012-till now.
- 31.Member** of the **Editorial Board** of "Journal of Energy and Power Engineering (*JEPE*)", David Publishing Company, USA, May 2013-till now.
- 32.Member** of the **Editorial Board** of "American Journal of Aerospace Engineering (*AJAE*)", Science Publishing Group, USA, September 2013-till now.
- 33.Member** of the **Editorial Board** of "Comprehensive Research Journal of Management and Business Studies (*CRJMBS*)", Comprehensive Research Journals, November 2013-till now.
- 34.Member** of the **Editorial Board** of "Scholars Journal of Engineering and Technology (*SJET*)", Scholars Academic and Scientific Publishers (*SAS Publisher*), India, December 2013-till now.
- 35.Regional Section Editor** of "Transaction on Control and Mechanical Systems (*TCMS*)", Transaction Series on Engineering Sciences and Technologies (*TSEST*), Turkey, January 2014-till now.
- 36.Member of the Editorial Board:** American Journal of Energy Research (*AJER*), Science and Education Publishing, USA, January 2014-till now.
- 37.Member of the International Review Board:** International Association of Journals and Conferences (*IAJC*), USA, March 2014-till now.
- 38.Member** of the **Peer-Review Board** of "Science Journal of Energy Engineering (*SJEE*)", Science Publishing Group, USA, April 2014-till now.
- 39.Member of the Editorial Board:** Time Journal of Engineering and Physical Sciences (*TJEPS*), Time Journals, April 2014-till now.
- 40.Member of the Editorial Board:** International Journal of Computer and Advanced Engineering Research (*IJCAER*), June 2014-till now.
- 41.Member of the Editorial Board:** Journal of Energy and Power Sources (*JEPS*), Ethan Publishing Company, USA, August 2014-till now.

42. Lead Guest Editor, Special Issue: Hands-on Learning Technique for Multidisciplinary Engineering Education, American Journal of Aerospace Engineering (*AJAE*).

43. Lead Guest Editor, Special Issue: Computational Simulation of Fire and Evacuation", American Journal of Energy Engineering (*AJEE*).

2. *Personal data*

- Name* : Ahmed Farouk AbdelGawad
- Date of Birth* : 24/3/1968
- Place of Birth* : Aswan-Egypt
- Nationality* : Egyptian
- Occupation* : Professor of *Computational Fluid Mechanics*,
Mechanical Power Engineering Department,
Faculty of Engineering, Zagazig University,
Zagazig 44519, EGYPT.
- Currently* : Professor, *Mechanical Engineering Department*,
College of Engineering and Islamic Architecture,
Umm Al-Qura University, P.O. Box: 5555,
Makkah, Saudi Arabia.
- Phone* : (Cellular): +(20)100-3619627
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- Web-site* : www.drahmedfarouk.net
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abdel_gawada2@asme.org
afbadawi@uqu.edu.sa

3. Academic Positions

1. *Professor* : From February 2009 till now.
2. *Associate Professor* : From February 2004 to February 2009.
3. *Assistant Professor* : From October 1998 to February 2004.
4. *Lecturer Assistant* : From July 1994 to October 1998.
5. *Demonstrator* : From October 1990 to July 1994.

4. Education

- *Ph.D.:*

- Mechanical Power Eng. Dept., Faculty of Eng., Zagazig University, Zagazig, EGYPT, September, 1998.
- Channel system: Virginia Polytechnique Institute & State University, Blacksburg, Virginia, USA.
- *Dissertation title:* "Computation of Turbulent Flow and Heat Transfer in Rotating Non-Circular Ducts".

- *M.Sc.:*

- Mechanical Power Eng. Dept., Faculty of Eng., Zagazig University, Zagazig, EGYPT, May, 1994.
- *Thesis title:* "A Study of Boundary Layer Development over a Flat Plate in Conditions of Natural and Artificial Transition".

- *B.Sc.:*

- Mechanical Eng. Dept., Faculty of Eng., Zagazig University, Zagazig, EGYPT, May 1990.
- *Grade:* Excellent **with Honors.**

5. Society Memberships

1. *Fellow*, International Energy Foundation (*IEF*), Melbourne, Australia, March 2013–till now.
2. *Associate Fellow*, American Institute of Aeronautics and Astronautics (*AIAA*), November 2011–till now.
3. *Senior Member*, American Institute of Aeronautics and Astronautics (*AIAA*), May 2009–October 2011.
4. *Member*, American Institute of Aeronautics and Astronautics (*AIAA*), 1997–May 2009.
5. *Member*, American Society of Mechanical Engineers (*ASME*), 1998–till now.
6. *ASME Student Section Advisor*, Umm Al-Qura University, Makkah, Saudi Arabia, December 2010–till now.
7. *Member*, (*ASME*), Egypt Section, March 2012–till now.
8. *ASME Mentor*, starting November 2012.
9. *Member*, American Chemical Society (*ACS*), Feb. 2010–till now.
10. *Member*, Society for Industrial and Applied Mathematics (*SIAM*), Oct. 2010–till now.
11. *Member*, The American Association for the Advancement of Science (*AAAS*), Aug. 2011–till now.
12. *Member*, Egyptian Syndicate of Engineers, 1990–till now.

6. *Awards & Honors*

1. **Bronze Medal** from Egyptian Syndicate of Engineers, 1994.
2. **Silver Medal** from Egyptian Syndicate of Engineers, 1990.
3. **Certificate** from Mechanical Engineering Department, College of Engineering and Islamic Architecture, Umm Al-Qura University, Makkah, Saudi Arabia. The certificate is to recognize the efforts in developing Mechanical Engineering Department during the academic year 2009-2010, 31 May 2010.
4. **Certificate** from Mechanical Engineering Department, College of Engineering and Islamic Architecture, Umm Al-Qura University, Makkah, Saudi Arabia. The certificate is to recognize the efforts in developing Mechanical Engineering Department during the academic year 2012-2013, 31 December 2012.
5. **Certificate** from Mechanical Engineering Department, College of Engineering and Islamic Architecture, Umm Al-Qura University, Makkah, Saudi Arabia. The certificate is to recognize the efforts in the academic accreditation process (*ABET*), Fall Semester 2014.
6. **Certificate** from Civil Defense Department, Ministry of Interior, Makkah, Saudi Arabia. The certificate is to recognize scientific activities in the field of "Simulation of Fire Dynamics", April 2014.

7. *Biographical Centers*

- a. **MARQUIS WHO'S WHO EMERGING LEADERS, USA:**
 - 1st Edition, 2007.
- b. **MARQUIS WHO'S WHO IN SCIENCE AND ENGINEERING, USA:**
 1. *Nomination to "11th Edition, 2011-2012"*.
 2. 9th Edition, 2006-2007.
 3. *Nomination to "8th Edition, 2005-2006"*.
 4. *Nomination to "7th Edition, 2003-2004"*.
- c. **MARQUIS WHO'S WHO IN THE WORLD, USA:**
 1. 32nd Edition, 2015.
 2. 31st Edition, 2014.
 3. 30th Edition, 2013 (Pearl Anniversary Edition).

4. 29th Edition, 2012.
5. 28th Edition, 2011.
6. 27th Edition, 2010.
7. 26th Edition, 2009.
8. *Nomination to "24th Edition, 2007"*.
9. *Nomination to "23rd Edition, 2006"*.
10. *Nomination to "22nd Edition, 2005"*.
11. 21st Edition, 2004.
12. 20th Edition, 2003.
13. 19th Edition, 2002.

d. MARQUIS WHO'S WHO IN AMERICA, USA:

1. *Nomination to "63rd Edition, 2009"*.
2. *Nomination to "61st Edition, 2007"*.

e. INTERNATIONAL BIOGRAPHICAL CENTRE (IBC), CAMBRIDGE, ENGLAND:

1. Top 100 Engineers 2010.
2. *Nomination to "International Engineer of the Year, 2010"*.
3. *Nomination to "The Plato Award–The Global Year of Learning – 2009"*.
4. International Educator of the Year, 2009.
5. 21st Century Award for Achievement, 2009.
6. Top 100 Educators 2009.
7. Top 100 Engineers 2009.
8. 2000 Outstanding Intellectuals of the 21st Century – 2009/2010.
9. *Nomination to "The Plato Award–The Global Year of Learning – 2008"*.
10. *Nomination to "IBC Diploma of Achievement, 2008"*.
11. Leading Educators of the World 2008.
12. *Nomination to "Outstanding People of the 21st Century, 2008"*.
13. IBC Foremost Educators of the World, 2008.
14. 2000 Outstanding Intellectuals of the 21st Century, 2008.
15. Top 100 Scientists 2008.
16. IBC Foremost Scientists of the World – 2008.
17. International Professional of the Year, 2008.
18. *Nomination to "International Scientist of the Year – 2007"*.
19. Leading Scientists of the World 2007.
20. The Cambridge Blue Book of Foremost International Scientists - 2007.
21. *Nomination to "International Educator of the Year – 2007"*.
22. Diploma of Achievement in Education 2005-2006.
23. The Cambridge Blue Book – 2005.
24. Dictionary of International Biography-Thirty Second Edition, 2005.

25. Leading Educators of the World 2005.
26. *Nomination to "International Professional of the Year – 2005"*.
27. *Nomination to "21st Century Award for Achievement, 2004"*.
28. 2000 Outstanding Intellectuals of the 21st century, 2004.
29. *Nomination to "International Biographical Centre Living Legends, 2004"*.
30. *Nomination to "Living Legends, 2003"*.
31. *Nomination to "The Lifetime of Achievement One Hundred, 2003"*.
32. *Nomination to "One Thousand Great Intellectuals, 2003"*.
33. 2000 Outstanding Intellectuals of the 21st century, Second Edition, 2003.

f. The American Biographical Institute (ABI) , USA:

1. *Nomination to "Great Minds of the 21st Century – Sixth Edition, 2013, Strictly Limited to 1,000 Entries"*.
2. *Nomination to "Man of the Year for Professional Excellence, 2012"*.
3. *Nomination to "Gold Medal for Egypt, 2012"*.
4. *Nomination to "Great Minds of the 21st Century – Fifth Edition, 2012, Strictly Limited to 1,000 Entries"*.
5. Man of the Year 2011.
6. The Scientific Award of Excellence 2011.
7. *Nomination to "American Order of Merit, 2011"*.
8. Albert Einstein Award of Excellence for 2011 (one of fifty all over the world).
9. 2011 Man of the Year *representing* Egypt.
10. *Nomination to "Gold Medal for Egypt, 2011"*.
11. *Nomination to "International Cultural Diploma of Honor, 2011"*.
12. *Nomination to "Hall of Fame for Distinguished Accomplishments, 2010"*.
13. 2010 Man of the Year *representing* Egypt.
14. International Profiles of Accomplished Leaders, 2010.
15. *Nomination to "2010 International Peace Prize"*.
16. *Nomination to "500 Great Leaders – 2009"*.
17. *Nomination to "American Order of Merit – 2009"*.
18. *Nomination to "Gold Medal for Egypt – 2009"*.
19. 2009 Man of the Year *representing* Egypt.
20. *Nomination to "Great Minds of the 21st Century – 2007/2008 Edition"*.
21. *Nomination to "American Medal of Honor, 2003"*.
22. Research Board of Advisors 2002-till now.

8. Patents

(Patent 1)

Member of the team of the following patent:

Patent Title : "Using Phase Change Expansion of a Substance to Perform Work on a Workpiece"

Assignee : "Fakieh Research & Development Center"
Makkah, Saudi Arabia

Inventor : Abdulrahman Abdulkader Mohammed Fakieh

Canada : Patent No.: CA2747897
: Date : Oct. 16, 2012

USA : Patent No.: US 20130031898 A1
: Date : Feb. 7, 2013

(Patent 2)

Member of the team of the following patent:

Patent Title : "Combined Air Conditioning and Water Generating System"

Assignee : "Fakieh Research & Development Center"
Makkah, Saudi Arabia

Inventor : Abdulrahman Abdulkader Mohammed Fakieh

USA : Patent No.: US 20120247135 A1
: Date : Oct. 4, 2012

Japan : Patent No.: JP2012207906
: Date : Oct. 25, 2012

Canada : Patent No.: CA2736085 C
: Date : May 14, 2013

9. Citation

Many of my published papers are cited (referenced) in the following:

1. *Seven* (7) International Text Books.
2. *Eight* (8) International *Ph.D.* Dissertations.
3. *Eleven* (11) International *M.Sc.* Thesis.
4. *Seventy-Five* (75) Papers in International Journals.
5. *Nineteen* (19) Papers in International Conferences.
6. *Six* (6) International Technical Reports.

10. Publications

(i) Journals

1. Atef M. Alm-Eldien, Ahmed F. Abdel Gawad, Gamal Hafaz, and Mohamed G. Abd El Kreim, "Performance Evaluation of the Tandem C4 blades for Axial-Flow Compressors", *Special Issue: Hands-on Learning Technique for Multidisciplinary Engineering Education*, American Journal of Aerospace Engineering (AJAE), Vol. 2, No. 1, pp. 74-92, January 2015. doi: 10.11648/j.ajae.s.20150201.17.
2. Eyad A. Mohamed, Muhammad N. Radhwi, Ahmed F. Abdel Gawad, "Computational Investigation of Aerodynamic Characteristics and Drag Reduction of a Bus Model ", *Special Issue: Hands-on Learning Technique for Multidisciplinary Engineering Education*, American Journal of Aerospace Engineering (AJAE), Vol. 2, No. 1, pp. 64-73, January 2015. doi: 10.11648/j.ajae.s.20150201.16.
3. Ahmed Farouk Abdel Gawad, "Hands-on Engineering Education by Construction and Testing of Models of Sailing Boats", *Special Issue: Hands-on Learning Technique for Multidisciplinary Engineering Education*, American Journal of Aerospace Engineering (AJAE), Vol. 2, No. 1, pp. 11-30, January 2015. doi: 10.11648/j.ajae.s.20150201.12.

4. Ahmed Farouk Abdel Gawad, and Talal Saleh Mandourah, "Proposed Simple Electro-Mechanical Automotive Speed Control System", *Special Issue: Hands-on Learning Technique for Multidisciplinary Engineering Education*, American Journal of Aerospace Engineering (AJAE), Vol. 2, No. 1, pp. 1-10, January 2015. doi: 10.11648/j.ajae.s.20150201.11.
5. Ghassan J. Softah, Muhammad N. Radhwi, and Ahmed Farouk Abdel Gawad, "A Parametric Study of the Performance of Heat Recovery Wheels in HVAC system", Umm Al-Qura University Journal of Engineering and Islamic Architecture (UQU-UJEA), Vol. 5, No. 2, Ragab 1435 H - May 2014.
6. Asim M. Wafiah, Ahmed Farouk Abdel Gawad, and Muhammad N. Radhwi, "Computational Investigation of the Operation of Heat Conservation Wheels in AHU-Systems", Umm Al-Qura University Journal of Engineering and Islamic Architecture (UQU-UJEA), Vol. 5, No. 2, Ragab 1435 H - May 2014.
7. Ahmed F. Abdel Gawad, "New, Simple Blade-Pitch Control Mechanism for Small-Size, Horizontal-Axis Wind Turbines", Journal of Energy and Power Engineering (JEPE), Vol. 7, No. 12, pp. 2237-2248, December 2013 (Serial Number 73).
8. Ahmed Farouk Abdel Gawad, "Utilization of Whale-Inspired Tubercles as a Control Technique to Improve Airfoil Performance", Transaction on Control and Mechanical Systems (TCMS), Vol. 2, No. 5, May 2013.
9. S. A. Mohamed, N. A. Mohamed, A. F. Abdel Gawad, and M. S. Matbuly, "A Modified Diffusion Coefficient Technique for the Convection Diffusion Equation", Applied Mathematics and Computation, Vol. 219, No. 17, pp. 9317-9330, May 2013.
10. A. F. Abdel Gawad, N. A. Mohamed, S. A. Mohamed, M. S. Matbuly, "Investigation of the Channel Flow with Internal Obstacles Using Large Eddy Simulation and Finite-Element Technique", Applied and Computational Mathematics Journal, Vol. 2, No. 1, pp. 1-13, 2013. doi: 10.11648/j.acm.20130201.11.
11. Doheim, M. A., Abdel Gawad, A. F., Mahran, G. M. A., Abu-Ali, M. H., and Rizk, A. M., "Numerical Simulation of Particulate-Flow in Spiral Separators: Part I, Low Solids Concentration (0.3 & 3% Solids)", Elsevier Journal of "Applied Mathematical Modelling - Simulation and

Computation for Engineering and Environmental Systems", ISSN 0307-904x, Vol. 37, Issues 1-2, pp. 198-215, January 2013.

[This paper was recorded as the most downloaded article from the SciVerse ScienceDirect "Elsevier-Applied Mathematical Modelling Journal" for 90 days (by the end of October 2012)]

12. Nabil H. Mostafa, Ahmed F. Abdel-Gawad, Yasser M. El-okda, Mohamed S. Emeara, "Air-flow in Multi-stage Centrifugal Compressor ", Journal of Al Azhar University Engineering Sector (*JAUES*), Vol. 7, No. 23, pp. 989-1006, April 2012.
13. Nabil H. Mostafa, Ahmed F. Abdul-gawad, and Mohamed S. Emeara, "A Numerical/Experimental Study of A Multi-Stage Centrifugal Compressor", The Egyptian International Journal of Engineering Sciences and Technology (*EIJEST*), Vol. 14, No. 2, May 2011.
14. Mohamed R. Shaalan, Ahmed F. Abdul-gawad, and Mahmoud A. Elewa, "Aerodynamic Performance of a High-Turning Turbine Cascade with Varying Tip Clearance", The Egyptian International Journal of Engineering Sciences and Technology (*EIJEST*), Vol. 14, No. 2, May 2011.
15. A. Elsebaei, J. Heberlein, M. Elshaer, and A. Farouk, "Comparison of In-Flight Particle Properties, Splat Formation, and Coating Microstructure for Regular and Nano-YSZ Powders", Journal of Thermal Spray Technology, Vol. 19, No. 1-2, pp. 2-10, Jan. 2010.
16. W. M. Elwan, A. F. Abdel Gawad, H. E. Abdel Hameed, and S. S. Abdel Aziz, "Investigation of the Aerodynamic Effect of the Interfering Gap between Uncommon Towers", Journal of Engineering and Applied Science (*JEAS*), Vol. 55, No. 6, pp. 493-512, December, 2008.
17. Doheim, M. A., Abdel Gawad, A. F., Mahran, G. M. A., Abu-Ali, M. H., and Rizk, A. M., "Computational Prediction of Water-Flow Characteristics in Spiral Separators: Part I, Flow Depth and Turbulence Intensity," Journal of Engineering Sciences, Vol. 36, No. 4, pp. 935-950, July, 2008.
18. Doheim, M. A., Abdel Gawad, A. F., Mahran, G. M. A., Abu-Ali, M. H., and Rizk, A. M., "Computational Prediction of Water-Flow Characteristics in Spiral Separators: Part II, The Primary and Secondary Flows," Journal of Engineering Sciences, Vol. 36, No. 4, pp. 951-961, July, 2008.

19. Norhan A. Mohamed, Ahmed F. Abdel Gawad, and Said G. Ahmed, "Computation of Partial Cavitation Characteristics over Two-Dimensional Symmetric Hydrofoils Using A Newly Proposed Boundary Element Algorithm," International eJournal of Engineering Mathematics: Theory and Application, <http://www.ieems.net/iejemta.htm>, ISSN 1687-6156, First Volume - June 2007.
20. Ahmed F. Abdel Gawad, Mofreh M. Nassief, and Nabil M. Gurguis, "Numerical and Neural Study of Flow and Heat Transfer Across an Array of Integrated Circuit Components," Journal of Engineering and Applied Science (*JEAS*), Vol. 52, No. 5, pp. 981-1000, October, 2005.
21. Ahmed F. Abdel Gawad, Saad A. Ragab, Ali H. Nayfeh, and Dean T. Mook, "Roll Stabilization by Anti-Roll Passive Tanks," Ocean Eng. J., Vol. 28/5, pp. 457-469, Jan. 2001.
22. Mohsen M. Ezzeldin, and Ahmed F. Abdel Gawad, "Analysis of Horizontal Transitions in Rectangular Open Channels Using the K-Epsilon Model," *J. Mataria Faculty of Eng.*, Vol. 70, pp. 22-38, Aug. 2000.

(ii) Conferences

1. Atef M. Alm-Eldien, Ahmed F. Abdel Gawad, Gamal Hafaz, and Mohamed G. Abd El Kreim, "Design and Optimization of a Multi-Stage Axial-Flow Compressor", Eleventh International Conference of Fluid Dynamics (*ICFD11*), 19-21 Dec., 2013, Helnan Palestine Hotel, Alexandria, Egypt, *ICFD11-EG-4103*.
2. Atef M. Alm-Eldien, Ahmed F. Abdel Gawad, Gamal Hafaz, and Mohamed G. Abd El Kreim, "Aerodynamic Shape-Optimization of Axial-Compressor Blades", Eleventh International Conference of Fluid Dynamics (*ICFD11*), 19-21 Dec., 2013, Helnan Palestine Hotel, Alexandria, Egypt, *ICFD11-EG-4096*.
3. Ahmed Farouk Abdel Gawad, Hamza A. Ghulman, and Talal Saleh Mandourah, "Design, Construction and Operation of Unmanned Ship Model for Multidisciplinary Engineering Education". Eleventh International Conference of Fluid Dynamics (*ICFD11*), 19-21 Dec., 2013, Helnan Palestine Hotel, Alexandria, Egypt, *ICFD11-EG-4016*.

4. A. F. Abdel-Gawad, and H. A. Ghulman, "Fire Dynamics Simulation of Large Multi-story Buildings, Case Study: Umm Al-Qura University Campus", International Conference on Energy and Environment 2013 (*ICEE2013*), Universiti Tenaga Nasional, Putrajaya Campus, Selangor, Malaysia, 5-6 March 2013.

[Institute of Physics (IOP) Conference Series: Earth and Environmental Science Volume 16 issue 1, 2013, <http://iopscience.iop.org/1755-1315/16/1/012040>]

5. Ahmed Farouk Abdel Gawad, "Numerical Simulation of the Effect of Leading-Edge Tubercles on the Flow Characteristics around an Airfoil", *ASME 2012 International Mechanical Engineering Congress & Exposition (IMECE2012)*, Houston, Texas, USA, November 9-15, 2012, *IMECE2012-85857*.

6. Ahmed Farouk Abdel Gawad, "Novel Electro-Mechanical Mechanism for Blade Pitch-Control of Horizontal-Axis, Home-scale Wind Turbines", *48th AIAA/ASME/SAE/ASEE Joint Propulsion Conference & Exhibit (JPC)-10th Annual International Energy Conversion Engineering Conference (IECEC 2012)*, Hyatt Regency Atlanta, Atlanta, Georgia, USA, 30 July-1 August 2012, *AIAA 2012-4245*.

7. Ahmed Farouk Abdel Gawad, "Optimization of Natural Ventilation of Ancient Buildings towards Sustainability of Modern Buildings – Part 1: One-Story Building", "Tenth International Congress of Fluid Dynamics (*ICFD10*)", Stella Di Mare Sea Club Hotel, Ain Soukhna, Red Sea, Egypt, 16-19 December, 2010.

8. Ahmed Farouk Abdel Gawad, "Optimization of Natural Ventilation of Ancient Buildings towards Sustainability of Modern Buildings – Part 2: Two-Story Building", "Tenth International Congress of Fluid Dynamics (*ICFD10*)", Stella Di Mare Sea Club Hotel, Ain Soukhna, Red Sea, Egypt, 16-19 December, 2010.

9. Atef M. Alm-Eldien, Ahmed F. Abdel Gawad, and Mohamed G. Abd El Kreim, "A Proposed Program to Predict the Performance of Steam Power Plants", "Tenth International Congress of Fluid Dynamics (*ICFD10*)", Stella Di Mare Sea Club Hotel, Ain Soukhna, Red Sea, Egypt, 16-19 December, 2010.

10. Ahmed F. Abdel Gawad, Ahmed H. Backar, and Mohamed W. Al-Hazmi, "Computational Analysis of the Skin-Cracking of the Airplane C-Duct", "Tenth International Congress of Fluid Dynamics (*ICFD10*)", Stella Di Mare Sea Club Hotel, Ain Soukhna, Red Sea, Egypt, 16-19 December, 2010.
11. Wael M. Elwan, Ahmed F. Abdel Gawad, Hesham E. Abdel Hameed, and Salem S. Abdel Aziz, "Investigation of the Aerodynamic Effect of the Interfering Gap between Uncommon Towers", Proceedings of Ninth International Congress of Fluid Dynamics & Propulsion (*ICFDP 9*), December 18-21, 2008, Helnan Palestine Hotel, Alexandria, Egypt.
12. Ahmed F. Abdel Gawad, "Investigation of The Dilution of Outfall Discharges Using Computational and Neuro-Fuzzy Techniques," Proceedings of 2007 ASME International Mechanical Engineering Congress & Exposition (*IMECE2007*), 5-11 November 2007, Seattle, Washington, USA.
13. Wael M. Elwan, Ahmed F. Abdel Gawad, Salem S. Abdel Aziz, and Hesham E. Abdel Hameed, "Characteristics of Wind Forces Acting on Uncommon Tall Buildings," Proceedings of Al-Azhar Engineering 9th International Conference, 12-14 April, 2007, Cairo, Egypt.
14. Aly A. Abdel Aziz, and Ahmed F. Abdel Gawad, "Aerodynamic and Heat Transfer Characteristics around Vehicles with Different Front Shapes in Driving Tunnels," Proceedings of Eighth International Congress of Fluid Dynamics & Propulsion (*ICFDP 8*), December 14-17, 2006, Sharm El-Shiekh, Sinai, Egypt.
15. Norhan A. Mohamed, Ahmed F. Abdel Gawad, and Said G. Ahmed, "A Boundary Element Approach with New Algorithm to Predict Partial Cavitation around 2D Hydrofoils," Proceedings of Eighth International Congress of Fluid Dynamics & Propulsion (*ICFDP 8*), December 14-17, 2006, Sharm El-Shiekh, Sinai, Egypt.
16. Amal F. Abdel Gawad, Abdel-Salam A. Zoklot, and Ahmed F. Abdel Gawad, "Wind and Environmental Effect on the Overhead High Voltage Transmission Lines," Proceedings of the Sustainable City 2006 Conference, July 17-19, 2006, Tallinn, Estonia.
17. Ahmed F. Abdel Gawad, "Computational and Neuro-Fuzzy Study of the Effect of Small Objects on the Flow and Thermal Fields of Bluff Bodies,"

Proceedings of 8th Biennial *ASME* conference on Engineering Systems Design and Analysis (*ESDA2006*), July 4-7, 2006, Torino, Italy.

18. Ahmed F. Abdel Gawad, Mofreh M. Nassief, and Nabil M. Gurguis, "Numerical and Neural Study of Flow and Heat Transfer Across an Array of Integrated Circuit Components," Proceedings of Thermal and Thermomechanical Phenomena in Electronic Systems Conference (*ITHERM-2006*), Sheraton San Diego Hotel & Marina, , May 30-June 2, 2006, San Diego, California, USA.
19. Ahmed F. Abdel Gawad, "A New Approach to Minimize the Wind Load on Interfering Tall Buildings Based on Numerical and Optimization Techniques," Proceedings of Al-Azhar Engineering 8th International Conference, 24-27 December, 2004, Cairo, Egypt.
20. Osama E. Abdellatif, and Ahmed F. Abdel Gawad, "Experimental and Numerical Investigation of Internal and External Flow Fields for Buildings with Porous Canopy Roofs," Proceedings of Al-Azhar Engineering 8th International Conference, 24-27 December, 2004, Cairo, Egypt.
21. Ahmed F. Abdel Azim, A. F. Abdel Gawad, and M. M. Ibrahim, "Turbulent Modelling of the Plumes of a Single Stack," Proceedings of International Mechanical Engineering Conference, December 5-8, 2004, Kuwait.
22. A. El Sebay, M. K. Moubasher, and A. F. Abdel Gawad, "Study of Particle Dynamics in a Plasma Torch," Proceedings of the Second International Conference on Engineering Mathematics and Physics, Military Technical College, 23-25 November 2004, Cairo, Egypt.
23. Ahmed F. Abdel Gawad, "Study of Both Airflow and Thermal Fields in a Room Using $K-\epsilon$ Modelling and Neural Networks," Proceedings of Al-Azhar Engineering 7th International Conference, 7-10 April, 2003, Cairo, Egypt.
24. Osama E. Abdellatif, and Ahmed F. Abdel Gawad, "Experimental, Numerical and Neural Investigation of the Aerodynamic Characteristics for Two-Dimensional Wings in Ground Effect," Proceedings of Al-Azhar Engineering 7th International Conference, 7-10 April, 2003, Cairo, Egypt.
25. Ahmed F. Abdel Gawad, "Numerical and Neural Study of the Turbulent Flow around Sharp-Edged Bodies," Proceedings of the 2002 Joint *US*

ASME-European Fluids Engineering Division Summer Meeting, July 14-18, 2002, Montreal, Canada.

26. Ahmed F. Abdel Gawad, and Osama E. Abdellatif, "Influence of Various Factors on the Flow Characteristics through a Gas Turbine Cascade," Proceedings of the Seventh International Congress on Fluid Dynamics and Propulsion, December 18-20, 2001, Cairo, Egypt.
27. Ahmed F. Abdel Azim, A. F. Abdel Gawad, and M. M. Ibrahim, "Study of Air Pollution due to Industrial Spots Nearby the Campus of Zagazig University (Egypt)," Proceedings of Ninth International Conference on Modelling, Monitoring, and Management of Air Pollution, September 12-14, 2001, Ancona, Italy.
28. Ahmed F. Abdel Azim, and Ahmed F. Abdel Gawad, "Effect of Different Parameters on the Drag Coefficient for Commercial Vehicles," Proceedings of Ninth International Conference on Aerospace Sciences & Aviation Technology, May 8-10, 2001, Military Technical College, Cairo, Egypt.
29. Ahmed F. Abdel Gawad, "Aerodynamics of Vehicles through Driving Tunnels – Experimental Study of Interference and Drag Reduction," SAE 2001 World Congress, March 5-8, 2001, Detroit, Michigan, USA.
30. Osama E. Abdellatif, and Ahmed F. Abdel Gawad, "An Experimental Investigation of Closely Interfering Airfoils at a Low Reynolds Number," 5th Biennial Conference on Engineering Systems Design & Analysis, ESDA 2000, July 10-13, 2000, Montreux, Switzerland.
31. Ahmed F. Abdel Gawad, "Calculation of Turbulent Flow Through a Channel with Two Opposite Ribbed-Walls," Proceedings of ASME 2000 Fluids Engineering Division Summer Meeting, June 11-15, 2000, Boston, Massachusetts, USA.
32. Ahmed F. Abdel Azim, and Ahmed F. Abdel Gawad, "Numerical Investigation of Vehicles Aerodynamics through Driving Tunnels," 2000 Future Car Congress, April 2-6, 2000, Hyatt Regency Crystal City, Arlington, Virginia, USA.
33. Ahmed F. Abdel Azim, and Ahmed F. Abdel Gawad, "A Flow Visualization Study of the Aerodynamic Interference between Passenger Cars," SAE 2000 World Congress, March 6-9, 2000, Cobo Center, Detroit, Michigan, USA.

34. Ahmed F. Abdel Gawad, and Saad A. Ragab “Simulation of Turbulent Flow in a Channel with Repeated Ribs on One Wall,” 38th Aerospace Sciences Meeting & Exhibit, 10-13 Jan. 2000, Reno, NV, USA.
35. A. F. Abdel Gawad, M. R. Shaalan, O. E. Abdel Latif, S. A. Ragab, and I. M. Shabaka, “Comparison between the Results of Large Eddy Simulation and K- ϵ Modelling for Straight Non-Circular Ducts,” Proceedings of the 3rd ASME/JSME Joint Fluids Engineering Conference, July 18-23, 1999, San Francisco, California, USA.
36. A. F. Abdel Gawad, O. E. Abdel Latif, S. A. Ragab, and I. M. Shabaka “Turbulent Flow and Heat Transfer in Rotating Non-Circular Ducts with Nonlinear K- ϵ Model,” AIAA 36th Aerospace Sciences Meeting & Exhibit, January 12-15, 1998, Reno, NV, USA.
37. K. S. Youssef, S. A. Ragab, W. J. Devenport, and A. F. Abdel Gawad, “Large Eddy Simulation of the Near Wake of a Rectangular Wing,” AIAA 36th Aerospace Sciences Meeting & Exhibit, January 12-15, 1998, Reno, NV, USA.
38. A. F. Abdel Gawad, O. E. Abdel Latif, Saad A. Ragab, and M. R. Shaalan “Numerical Prediction of Turbulent Heat Transfer in a Rotating Square Duct with Nonlinear K- ϵ Model,” Eleventh Symposium on Turbulent Shear Flows, September 8-11, 1997, Institut National Polytechnique, University Joseph Fourier, Grenoble, France.
39. Ahmed F. Abdel Gawad, Saad A. Ragab, A. Luton, and Osama E. Abdel Latif “Large Eddy Simulation for Fully Developed Flow in a Square Duct,” 1997 ASME Fluids Engineering Division Summer Meeting (FEDSM'97), June 22-26, 1997, Vancouver, British Columbia, Canada.
40. Ahmed. F. Abdel Gawad, Osama E. Abdel Latif, Ibrahim M. Shabaka, and Mohammad R. Shaalan “Numerical Prediction of Convective Heat Transfer for Turbulent Flow in a Square Duct with Nonlinear K- ϵ Model,” 1997 ASME Fluids Engineering Division Summer Meeting (FEDSM'97), June 22-26, 1997, Vancouver, British Columbia, Canada.
41. A. F. Abdel Gawad, A. A. Salman, I. M. Shabaka, and M. R. Shaalan “A Study of the Boundary Layer Artificial Transition,” Fifth International Conference of Fluid Mechanics, July 2-5, 1995, Nile Hilton, Cairo, Egypt.

(iii) Invited

1. A. Elsebaei, J. Heberlein, M. Elshaer, and A. Farouk, "Comparison of In-Flight Particle Properties, Splat Formation, and Coating Microstructure for Regular and Nano-YSZ Powders", International Thermal Spray Conference & Exposition (*ITSC*), Flamingo Hotel, Las Vegas, Nevada, USA, May 4-7, 2009.
2. A. F. Abdel Gawad, A. H. Nayfeh, S. A. Ragab, and D. T. Mook, "Roll Stabilization by Passive Anti-Roll Tank", presented at the Third-Semi-Annual Meeting of the *MURI*, Blacksburg, VA, USA, April 13-14, 1998.
3. A. F. Abdel Gawad, S. A. Ragab, "Validation of FANS 5.0 for Unsteady Turbulent Flows", presented at the Second Semi-Annual Meeting of the Muri, Blacksburg, VA, USA, August 6-7, 1997.

11. Visits

1. From 5 to 14 November 2008:

Visiting Silesian University of Technology, Poland.

As a member of TEMPUS Project (JEP – 33108 – 2005)

"Development of an Industry – Linked Mechatronics Program with Training of Trainers (*DIMPTOT*)".

2. From July to October 1999:

Visiting Scholar in Eng. Science and Mechanics Dept.,
Virginia Tech, Blacksburg, Virginia, USA,

Research activities.

3. From April 1996 to April 1998:

Visiting Scholar in Eng. Science and Mechanics Dept.,
Virginia Tech, Blacksburg, Virginia, USA.

as a part of the Ph.D. study.

12. Supervision

(i) Graduate Studies:

❖ *Ph.D. (Finished):*

1. Mrs. Norhan A. Mohamed, Lecturer Assistant in Arithmetic and Physics Eng. Dept., Faculty of Eng., Zagazig University, Zagazig, Egypt, "Multigrid Applications".
(She finished her degree in December 2013)
2. Mr. Ashraf E. Kamal, Lecturer Assistant in Arithmetic and Physics Eng. Dept., Faculty of Eng., Zagazig University, Zagazig, Egypt, "Modelling and Experimental Investigation of a Plasma Spraying System".
(He finished his degree in November 2009)
3. Mr. Gamal M. Mahran, Lecturer Assistant in Mining Eng. and Petroleum Dept., Qena Faculty of Eng., Al-Azhar University, Qena, Egypt, "Modeling and Simulation of the Spiral Separator".
(He finished degree in January 2009, Faculty of Eng., Assuit Univ., Egypt)

❖ *Ph.D. (In Progress):*

1. Mr. Mohamed Gaber Abdel Kareem, Mechanical Power Engineering Dept., Port Said University, Port Said, Egypt, "Enhancement of the off-design Performance of Multi-stage Axial Compressors".

❖ *Ph.D. (Supervision for certain period of time):*

(My role in supervision ended in June 2011 due to academic leave)

1. Mr. Nader Farouk, Lecturer Assistant in Arithmetic and Physics Eng. Dept., Faculty of Eng., Zagazig University, Zagazig, Egypt, "Fluid Applications".
2. Mr. Ahmed Saad Rashed, Lecturer Assistant in Arithmetic and Physics Eng. Dept., Faculty of Eng., Zagazig University, Zagazig, Egypt, "Hidden Symmetries of Partial Differential Equations".
3. Mr. Wael M. Elwan, Lecturer Assistant in Mechanical Power Eng. Dept., Faculty of Eng., Zagazig University, Zagazig, Egypt, "Gas Turbines".

❖ *M.Sc. (Finished):*

1. Mr. Eyad Takroni, Mechanical Engineering Department, College of Engineering and Islamic Architecture, Umm Al-Qura University, Makkah, Saudi Arabia, "*Aerodynamic Characteristics and Drag Reduction of Buses*".
(He defended his graduation project in November 2014)
2. Mr. Asim M. Wafiah, Mechanical Engineering Department, College of Engineering and Islamic Architecture, Umm Al-Qura University, Makkah, Saudi Arabia, "*Computational and Neural Investigation of the Operation of Heat Conservation Wheels in AHU-Systems*".
(He defended his graduation project in February 2014)
3. Mr. Ghassan J. Softah, Mechanical Engineering Department, College of Engineering and Islamic Architecture, Umm Al-Qura University, Makkah, Saudi Arabia, "*Numerical Analysis and Neuro-Fuzzy Investigation of the Performance of Heat Recovery Wheels in AHU-Systems*".
(He defended his graduation project in February 2014)
4. Mr. Mahmoud A. Elewa, Mechanical Power Eng. Dept., Faculty of Eng., Zagazig University, Zagazig, Egypt, "*Aerodynamics of High-Turning Turbine Cascades with Varying Tip Clearance*".
(He finished his degree in September 2012)
5. Mr. Mohamed S. Hamid, Demonstrator in Mechanical Power Eng. Dept., Faculty of Eng., Zagazig University, Zagazig, Egypt, "*Numerical and Experimental Study of Multi-Stages Centrifugal Compressor*".
(He finished his degree in May 2011)
(He got the "*Prize of Best Master Thesis in Advanced Engineering and Technological Sciences*" from Zagazig Univesity, Academic Year 2010-2011)
6. Mr. Wael M. Elwan, Demonstrator in Mechanical Power Eng. Dept., Faculty of Eng., Zagazig University, Zagazig, Egypt, "*Computational and Experimental Investigation of the Characteristics of the Wind Loads Acting on Uncommon Tall Building*".
(He finished his degree in September 2009)
7. Mrs. Norhan A. Mohamed, Demonstrator in Arithmetic and Physics Eng. Dept., Faculty of Eng., Zagazig University, Zagazig, Egypt, "*Boundary*"

Element Method and Its Applications of Non-Linear Analysis of Flow around Hydrofoils".

(She finished her degree in January 2007)

8. Mr. Ashraf E. Kamal, Demonstrator in Arithmetic and Physics Eng. Dept., Faculty of Eng., Zagazig University, Zagazig, Egypt, "*Study of the Particles Dynamic in a Plasma Torch*".

(He finished his degree in May 2005)

9. Mr. Mostafa M. Ibrahim, Demonstrator in Mechanical Power Eng. Dept., Faculty of Eng., Zagazig University, Zagazig, Egypt, "*Investigation of Air Pollution Due to Emissions from Stacks*".

(He finished his degree in March 2004)

❖ ***M.Sc. (In Progress):***

1. Mr. Hamid M. Fallatah, Mechanical Engineering Department, College of Engineering and Islamic Architecture, Umm Al-Qura University, Makkah, Saudi Arabia, "*Constitutive Models of Saline Solution for Use in the Modelling of Solar Ponds*".

2. Mr. Abdulrahman Batyyb, Mechanical Engineering Department, College of Engineering and Islamic Architecture, Umm Al-Qura University, Makkah, Saudi Arabia, "*Self-Similar Solution of Unsteady Mixed Convection Flow near the Stagnation Point of a Heated Vertical Plate in a Porous Medium Saturated with a Nanofluid*".

3. Mr. Khalid Al-Bis, Mechanical Engineering Department, College of Engineering and Islamic Architecture, Umm Al-Qura University, Makkah, Saudi Arabia, "*Fire Dynamics Simulation*".

4. Mr. Ahmed Alghamdi, Mechanical Engineering Department, College of Engineering and Islamic Architecture, Umm Al-Qura University, Makkah, Saudi Arabia, "*MEMS Applications*".

(ii) ***Under-graduate Studies (B.Sc. Graduation Project):***

1. "Utilization of Human-emitted Heat for Hand lamps", 2013/2014, Mechanical Engineering Department, College of Engineering and Islamic Architecture, Umm Al-Qura University, Makkah, Saudi Arabia.

2. "Utilization of Small-Scale Power Wheel for House Applications", 2013/2014, Mechanical Engineering Department, College of Engineering and Islamic Architecture, Umm Al-Qura University, Makkah, Saudi Arabia.
3. "Development of the Clock Tower in Makkah by Utilization of Renewable Energy Sources", 2013/2014, Mechanical Engineering Department, College of Engineering and Islamic Architecture, Umm Al-Qura University, Makkah, Saudi Arabia.
4. "A Novel Technique for Laptop Cooling", 2012/2013, Mechanical Engineering Department, College of Engineering and Islamic Architecture, Umm Al-Qura University, Makkah, Saudi Arabia.
5. "Construction and Testing of an Un-manned Under-water Vehicle for Exploration of Sunken Ships", 2012/2013, Mechanical Engineering Department, College of Engineering and Islamic Architecture, Umm Al-Qura University, Makkah, Saudi Arabia.

"This project was chosen among the top twenty projects (out of 591 projects) proposed for 'National Technology Entrepreneurship Challenge-NTEC' by King Abdulaziz City for Science and Technology, KACST, Saudi Arabia, 27-29 September 2012"

6. "Construction and Testing of a High-Speed Train", 2012/2013, Mechanical Engineering Department, College of Engineering and Islamic Architecture, Umm Al-Qura University, Makkah, Saudi Arabia.
7. "Utilization of Human Foot-Steps for Power Generation", 2012/2013, Mechanical Engineering Department, College of Engineering and Islamic Architecture, Umm Al-Qura University, Makkah, Saudi Arabia.
8. "Utilization of Sea Waves for Electricity Generation", 2012/2013, Mechanical Engineering Department, College of Engineering and Islamic Architecture, Umm Al-Qura University, Makkah, Saudi Arabia.
9. "Construction and Testing of an Under-water Vehicle", 2011/2012, Mechanical Engineering Department, College of Engineering and Islamic Architecture, Umm Al-Qura University, Makkah, Saudi Arabia.
10. "Automated Storage and Retrieval System (AS/RS)", 2011/2012, Mechanical Engineering Department, College of Engineering and Islamic Architecture, Umm Al-Qura University, Makkah, Saudi Arabia.
11. "Experimental Simulation of Sea Waves to Gain Mechanical Energy", 2011/2012, Mechanical Engineering Department, College of Engineering

and Islamic Architecture, Umm Al-Qura University, Makkah, Saudi Arabia.

12. "Construction and Testing of a Vertical-axis Water-Current Turbine", 2011/2012, Mechanical Engineering Department, College of Engineering and Islamic Architecture, Umm Al-Qura University, Makkah, Saudi Arabia.
13. "Construction and Testing of a Wheel Turbine", 2010/2011, Mechanical Engineering Department, College of Engineering and Islamic Architecture, Umm Al-Qura University, Makkah, Saudi Arabia.
14. "Fire Dynamics Simulation in Buildings", 2010/2011, Mechanical Engineering Department, College of Engineering and Islamic Architecture, Umm Al-Qura University, Makkah, Saudi Arabia.
15. "Construction and Testing of a Wind Turbine for Home Use", 2010/2011, Mechanical Engineering Department, College of Engineering and Islamic Architecture, Umm Al-Qura University, Makkah, Saudi Arabia.
16. "Design, Construction, and Testing of a Horizontal-axis Wind Turbine and Application of Control Systems", 2008/2009, Mechanical Power Eng. Dept., Faculty of Eng., Zagazig University, Zagazig, Egypt.
17. "Automotive Speed Control System", 2007/2008, Mechanical Power Eng. Dept., Faculty of Eng., Zagazig University, Zagazig, Egypt.
18. "Interactive Simulation and Visualization of Fluid Motion", 2007/2008, Scientific Computing Dept., Faculty of Computer and Information Science, Ain Shams University, Egypt.
19. "Design, Construction and Testing of Unmanned Fishing Boat", 2006/2007, Mechanical Power Eng. Dept., Faculty of Eng., Zagazig University, Zagazig, Egypt.
20. "Design, Construction and Testing of a Sailing Boat", 2005/2006, Mechanical Power Eng. Dept., Faculty of Eng., Zagazig University, Zagazig, Egypt.
21. "Construction and Testing of Models of Uncommon-shaped Buildings", 2005/2006, Mechanical Power Eng. Dept., Faculty of Eng., Zagazig University, Zagazig, Egypt.
22. "Investigation of Aerodynamic Characteristics of Models of Missiles", 2005/2006, Mechatronics Eng. Dept., Faculty of Eng., October 6 University, October 6 City, Egypt.

23. "Design and Construction of Unmanned Model of a Hovercraft", 2004/2005, Mechanical Power Eng. Dept., Faculty of Eng., Zagazig University, Zagazig, Egypt.
24. "Design and Construction of a Small-size Suction Wind Tunnel", 2004/2005, Mechanical Power Eng. Dept., Faculty of Eng., Zagazig University, Zagazig, Egypt.
25. "Investigation of Aerodynamic Characteristics of Two Interfering Low-rise Buildings", 2004/2005, Mechatronics Eng. Dept., Faculty of Eng., October 6 University, October 6 City, Egypt.
26. "Investigation of Aerodynamic Characteristics of the Flow inside Buildings", 2003/2004, Mechanical Power Eng. Dept., Faculty of Eng., Zagazig University, Zagazig, Egypt.
27. "Wind Effect Over High Voltage Transmission Line", 2003/2004, Mechanical Power Eng. Dept., Faculty of Eng., Zagazig University, Zagazig, Egypt.
28. "Wind Tunnel Speed Control and Its Effect on Building Models", 2003/2004, Mechatronics Eng. Dept., Faculty of Eng., October 6 University, October 6 City, Egypt.
29. "Design, Construction and Testing of Hovercraft Models", 2002/2003, Mechanical Power Eng. Dept., Faculty of Eng., Zagazig University, Zagazig, Egypt.
30. "Design, Construction and Testing of Wind Pump Models", 2002/2003, Mechanical Power Eng. Dept., Faculty of Eng., Zagazig University, Zagazig, Egypt.
31. "Investigation of the Aerodynamic Characteristics of a Building Complex", 2001/2002, Mechanical Power Eng. Dept., Faculty of Eng., Zagazig University, Zagazig, Egypt.
32. "Study of the Add-on Irregularities on the Aerodynamic Characteristics of Airfoil Sections", 2000/2001, Mechanical Power Eng. Dept., Faculty of Eng., Zagazig University, Zagazig, Egypt.
33. "Investigation of the Aerodynamic Interference between Different Building Models", 2000/2001, Mechanical Power Eng. Dept., Faculty of Eng., Zagazig University, Zagazig, Egypt.
34. "Design and Construction of a Smoke Tunnel", 2000/2001, Mechatronics Eng. Dept., Faculty of Eng., October 6 University, October 6 City, Egypt.

35. "Effect of Add-on Devices on Road-vehicles Aerodynamics", 1999/2000, Mechanical Power Eng. Dept., Faculty of Eng., Zagazig University, Zagazig, Egypt.
36. "Design and Construction of a 3-D Traverse Mechanism on a Wind Tunnel for Aerodynamics Measurements", 1999/2000, Mechatronics Eng. Dept., High Institute of Eng., October 6 University, October 6 City, Egypt.
37. "Road-vehicles Aerodynamics", 1998/1999, Mechanical Power Eng. Dept., Faculty of Eng., Zagazig University, Zagazig, Egypt.
38. "Design and Construction of an Educational Wind Tunnel", 1998/1999, Mechatronics Eng. Dept., High Institute of Eng., October 6 University, October 6 City, Egypt.

13. Journals

(i) Lead Guest Editor

- Special Issue: Hands-on Learning Technique for Multidisciplinary Engineering Education, American Journal of Aerospace Engineering (*AJAE*).
- Special Issue: Computational Simulation of Fire and Evacuation", American Journal of Energy Engineering (*AJEE*).

(ii) Regional Section Editor

- "Transaction on Control and Mechanical Systems (*TCMS*)", Transaction Series on Engineering Sciences and Technologies (*TSEST*), Turkey, January 2014-till now.

(iii) Member of the Editorial Board

- "Journal of Energy and Power Sources (*JEPS*)", Ethan Publishing Company, USA, August 2014-till now.
- "International Journal of Computer and Advanced Engineering Research (*IJCAER*)", June 2014-till now.
- "Time Journal of Engineering and Physical Sciences (*TJEPS*)", Time Journals, April 2014-till now.

- "American Journal of Energy Research (*AJER*)", Science and Education Publishing, USA, January 2014-till now.
- "Scholars Journal of Engineering and Technology (*SJET*)", Scholars Academic and Scientific Publishers (*SAS Publisher*), India, December 2013-till now.
- "Comprehensive Research Journal of Management and Business Studies (*CRJMBS*)", Comprehensive Research Journals, November 2013-till now.
- "American Journal of Aerospace Engineering (*AJAE*)", Science Publishing Group, USA, September 2013-till now.
- "Umm Al-Qura University Journal of Engineering and Islamic Architecture (*UQU-UJEA*)", Umm Al-Qura University, Makkah, Saudi Arabia, November 2012-November 2014.
- "International eJournal of Engineering Mathematics: Theory and Application", ISSN 1687-6156, Egypt, 2007-2010.

(iv) Member of the Peer-Review Board

- "Journal of Energy and Power Engineering (*JEPE*)", David Publishing Company, USA, May 2013-till now.
- "Science Journal of Energy Engineering (*SJEE*)", Science Publishing Group, USA, April 2014-till now.
- "International Association of Journals and Conferences (*IAJC*)", USA, March 2014-till now.

(v) Reviewer

- "Issues in Business Management and Economics (*IBME*)", November 2014-till now.
- "International Research Journal of Public and Environmental Health (*IRJPEH*)", October 2014-till now.
- "Journal of Scientific Research and Studies (*JSRS*)", September 2014-till now.
- "American Journal of Mechanical Engineering (*AJME*)", July 2014-till now.
- "American Journal of Energy Research (*AJER*)", July 2014-till now.
- "International Journal of Numerical Methods for Heat and Fluid Flow (*IJNMHFF*)", April 2014-till now.

- "International Association of Journals and Conferences (IAJC)", April 2014-till now.
- "Transaction on Control and Mechanical Systems (TCMS)", December 2013-till now.
- "International Journal of Engineering Systems Modelling and Simulation (IJESMS)", May 2013-till now.
- "ASME Journal of Electronic Packaging", July 2012-till now.
- "Chinese Journal of Aeronautics (CJA)", Chinese Society of Aeronautics and Astronautics (CSAA), China, Oct. 2011 – till now.
- "Umm Al-Qura University Journal for Engineering and Architecture", Makkah, Saudi Arabia, Sept. 2011 – till now.
- *Elsevier Computers & Fluids*, February 2011 - till now.
- *ASME Journal of Heat Transfer*, March 2010-till now.
- "The Journal of Engineering Research (TJER)", College of Engineering, Sultan Qaboos University, Muscat, Sultanate of Oman, October 2009.
- Listed as one of the reviewers of "World Scientific and Engineering Academy and Society (WSEAS)", <http://www.worldses.org/wseas.htm>, 2008.
- Six papers submitted for "International eJournal of Engineering Mathematics: Theory and Application", ISSN 1687-6156, First Volume – June 2007, Egypt.
- "ASME Journal of Fluids Engineering", October 1999.

14. Conferences

1. Technical judge, "The 2014 AIAA Region VII Australia-Asia Student Paper Conference", 26-28 November 2014, University of Sydney, Australia. <http://region7au.aiaastudentconference.org/>
2. Member of the Scientific Committee of the Track "Mechanical Engineering and Mechatronics Technology", International Conference on Industry Academia Collaboration (iac2014), Fairmont Heliopolis, Cairo, Egypt, 3-5 March 2014. www.iacconf.com.
3. General coordinator, Session Chairman, the "Eleventh International Conference of Fluid Dynamics (ICFD11)", December 19-21, 2013, Helnan

Palestine Hotel, Alexandria, Egypt. The conference is co-organized by Cairo, Alexandria and Minoufia Universities. www.icfd11.org.

4. General coordinator, Session Chairman, the "ASME Tenth International Congress of Fluid Dynamics (*ICFD10*)", December 16-19, 2010, Stella Di Mare Sea Club Hotel, Ain Soukhna, Red Sea, Egypt. The conference is co-organized by American Society of Mechanical Engineers (*ASME*) and Cairo University. www.icfdpegypt.org.
5. General coordinator, Session Chairman, the "Ninth International Congress of Fluid Dynamics & Propulsion (*ICFDP9*)", December 18-21, 2008, Helnan Palestine Hotel, Alexandria, Egypt. The conference is co-organized by American Society of Mechanical Engineers (*ASME*), Cairo and Zagazig Universities. www.zu.edu.eg/icfdp9. <http://noonrd.org/icfdp9>
6. Coordinator, Session Chairman, the "Eighth International Congress of Fluid Dynamics & Propulsion (*ICFDP8*)", December 14-17, 2006, Sharm El-Shiekh, Sinai, Egypt. The conference is co-organized by American Society of Mechanical Engineers (*ASME*), Cairo, Mansoura and Zagazig Universities. www.zu.edu.eg/asme/ICFDP8-Main.htm
7. Reviewer of one paper submitted for "International Conference on Intelligent Computing and Information Systems (*ICICIS 2007*)", Faculty of Computer and Information Sciences, Ain Shams University, Cairo, Egypt, March 15-18, 2007.
8. One of the organizers of a one-day meeting about "The New and Renewable Energy – Current Situation and Future Possibilities", Mechanical Power Engineering Dept., Faculty of Engineering, Zagazig University, Tuesday, June 30, 1998.

15. Research Projects

1. Partner of a project that is supported by "King Abdulaziz City for Science and Technology, *KACST*", Saudi Arabia, Project Title: "An Investigation of the Initiation, Maintenance and Stability of the Halocline underlying the Operation of Solar Ponds: Application to the Construction and Operation of an Experimental Solar Pond", 12-MAT2969-10, May 2013-till now.
2. Member of a research team that is funded by the *Tempus* Scheme from the European Union. Project title is "Development of an Industry – Linked Mechatronics Program with Training of Trainers (*DIMPTOT*)". *TEMPUS*

project (JEP – 33108 – 2005), (Finished my role in the project in December 2008).

3. Member of a research team that received funding from the United States Agency for International Development (*USAID*) under the University Linkages Grant II. Project title is “Computer-Based Expert System for Gas Reforming and Turbomachinery Utilities - Operation and Preventive and Predictive Maintenance”, (Finished Sept. 1, 2002).
4. Member of a research team that is funded by Office of Naval Research (*ONR*), USA. Project title is "Optimum Design of Hydrofoil Systems". Virginia Polytechnic Institute and State University (Virginia Tech), USA, My role in the project was from July 1999 to September 1999.
5. Member of a research team that is funded by Office of Naval Research (*ONR*), USA. Project title is "Nonlinear Active Control of Dynamic Systems", MURI, Multi-University Research Initiative, Grant No. N00014-96-1-1123". Virginia Polytechnic Institute and State University (Virginia Tech), USA. My role in the project was from January 1997 to April 1998.

16. Attempts of Projects Proposals

1. Partner of a proposal that was submitted to "King Abdulaziz City for Science and Technology, *KACST*", Saudi Arabia, *Proposal Title*: "Utilization of Smart Systems for Fire Suppression in Makkah's Tunnels", (11-BUI1704-10), 2011.
2. Partner of a proposal that was submitted to "*Tempus IV*" that is supported by European Commission, *Proposal Title*: "Modern Energy Curriculum for Sustainability", 2009.
3. Partner of a proposal that was submitted to "*BA/CSSP Research Grants 2005*", Center for Special Studies and Programs (*CSSP*), Bibliotheca Alexandrina, Alexandria, Egypt. *Proposal title*: “An Integrated System to Utilize Wind Energy in Electricity Generation and Water Pumping”. *The proposal was considered as one of the 28 top-listed out of 82 proposals.*
4. Partner of a proposal that was submitted to “Academy of Scientific Research & Technology”, Ministry of Higher Education & State for Scientific Research, Egypt. *Project title*: “Development of Mathematical Models for Heating Steel in Furnaces of Various Constructions”, 2005.

17. *Technical Activities*

(I) General

1. **Evaluator in the Egyptian national scientific committee** of "Mechanical Power Engineering, Motor Vehicles, and Aviation "for the promotion of Faculty Members to the degree of Professor and Associate Professor, Eleventh round, Jan. 2013-Dec. 2015.
2. **Part-time consultant** "Fakieh Research & Development Center", Makkah, Saudi Arabia, May 2010-present.
3. **Writer** of an **Article** Entitled "Prospects for Helium Gas as an Energy Source... Potential and Challenges - A Comparative Study with Solar Energy", Periodical of Fakieh Research & Development Center, Makkah, Saudi Arabia, Vol. 7, Nov. 2011.

(II) Evaluator

1. **External Examiner** for M.Sc. thesis, Faculty of Engineering, **The British University in Egypt (BUE)**, Egypt, Academic year 2014-2015.
2. Evaluator of **Academic Promotion** to the rank of "Associate Professor", **Tafila Technical University**, Tafila, Jordon, Academic year 2011-2012.
3. Evaluator of **Research Projects** submitted for funding at "**King Abdulaziz University in Jeddah (KAU)**", Saudi Arabia, Academic years 2011-2012, 2012-2013, 2013-2014, 2014-2015.
4. Evaluator of **Research Projects** submitted for funding at "**Taif University**", Saudi Arabia, Academic year 2011-2012.

(III) Umm Al-Qura University, Makkah, Saudi Arabia

(III.a) General

1. **Member** of the "Committee of Planning for Safety Strategies", January 2011 - January 2012.
2. **Member** of a team of "Faculty members" of College of Engineering and Islamic Architecture to produce a proposal for the design and construction of "King Abdullah City for Atomic and Renewable Energy (**KACARE**)", July 2010.

(III.b) Mechanical Engineering Department, College of Engineering and Islamic Architecture

1. Department is awarded the **international six-year accreditation** of the "Accreditation Board for Engineering and Technology (*ABET*)", August 2012.
2. **ASME Student Section Advisor**, Mechanical Engineering Department, College of Engineering and Islamic Architecture, Umm Al-Qura University, Makkah, Saudi Arabia, December 2010-till now.
3. One of the Organizers and Speakers of **Short Course** about "**Engineering Professional Ethics**" for five days; in the period from 9 to 25 May 2011.
4. **Head** of "*B.Sc.* Graduation Projects Committee", June 2010-till now.
5. **Member** of the "**High Studies Committee**", April 2011-till now.
6. **Head** of the "**Assessment Committee; ABET, NCAAA**", March 2014-till now.
7. **Member** of the "Accreditation Steering Committee; *ABET, NCAAA*", March 2014-till now.
8. **Academic Consultant** of "**Automotive Club**", December 2012-December 2013.
9. **Member** of committee for the preparation of "**Ph.D. Program Curriculum**", March 2013-till now.
10. **Member** of the "**ABET Accreditation Steering Committee**", January 2011-March 2014.
11. **Member** of the "**ABET Improvement Committee**", January 2011-March 2014.
12. **Member** of the "**ABET Self-Assessment Committee**", November 2010-March 2014.
13. One of the Organizers and Speakers of Short Course about "Engineering Professional Ethics" for five days; in the period from 9 to 25 May 2011. The course is directed to the students of Mechanical Engineering Dept., Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia. *ASME* Student Section and Student Council participated in the organizing of the training course.

(IV) Zagazig University, Zagazig, Egypt

(IV.a) General

1. **Manager** of the project “**Automation of Zagazig University Libraries**”, Project Management Unit (*PMU*), Supreme Council of Universities, from May 2007 to April 2009.
2. **Head** of the unit of "**Libraries Automation and Digital Library**" in Zagazig University from 1-7-2008 to 31-12-2008.
3. Participating in cooperation with the “**Science Club of Zagazig University**” through two *B. Sc.* Graduation Projects in the “**Week of the Youth of the Egyptian Universities**”, Mansoura University, Mansoura, Egypt, 7-12 Feb. 2009.

(IV.b) Faculty of Engineering

1. **Secretary** of the "**Council of Faculty of Engineering**", for the academic year 2009-2010.
2. **Head of Evaluation Unit** (a sub-unit of the Unit of Quality Assurance & Accreditation), from January 2005 to January 2010.
3. **Member** of the "**Committee of High-Studies and Research**", Academic year 2009-2010.
4. **Member** of the **Judgment Committee of the B.Sc. graduation projects** of "Computer and Systems Department", Academic year 2010-2011.
5. **Member** of a team for preparing the proposal of "**Continuous Improvement and Qualification for Accreditation Project**", Second Phase, Fourth Cycle, March-April 2010. For presentation to "Unit of Management of Improvement Projects", Ministry of Higher Education.

18. Conferences Attendance

1. "Twelfth Scientific Meeting of Hajj Researches & Hajj and Omerah Exhibition", Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia, 26-28 May 2012.
2. "Fulbrighters Face Egypt's Scientific Challenges", Conference is co-organized by The Binational Fulbright Commission in Egypt and The City of Scientific Research and Technology Applications, July 7, 2011,

The City of Scientific Research and Technology Applications, Borg El-Arab, Alexandria, Egypt.

3. "Eleventh Scientific Meeting of Hajj Researches & Hajj and Omerah Exhibition", Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia, 12-17 June 2011.
4. "Tenth International Congress of Fluid Dynamics (*ICFD10*)", December 16-19, 2010, Stella Di Mare Sea Club Hotel, Ain Soukhna, Red Sea, Egypt. The conference is co-organized by American Society of Mechanical Engineers (*ASME*) and Cairo University. www.icfdpegypt.org.
5. "Conference and Exposition on: Achievements of the First Stage, 2004-2008, of *ICTP*", Organized by: Information and Communication Technology Project (*ICTP*)- Ministry of Higher Education & State for Scientific Research, Egypt, Monday 16 February, 2009, Training and Education Development Centre, Hospitals of Ain Shams University, Cairo, Egypt.
6. "Ninth International Congress of Fluid Dynamics & Propulsion (*ICFDP9*)", December 18-21, 2008, Helnan Palestine Hotel, Alexandria, Egypt. The conference is co-organized by American Society of Mechanical Engineers (*ASME*), Cairo and Zagazig Universities. www.zu.edu.eg/icfdp9. <http://noonrd.org/icfdp9>
7. "First Annual Student Projects Conference for Faculties of Engineering", November 13, 2008, American University in Cairo (*AUC*), New Cairo, Egypt.
8. "Annual Conference on: Information Technology in Higher Education: Present and Future", Organized by: Information and Communication Technology Project (*ICTP*)- Ministry of Higher Education & State for Scientific Research, Egypt, Thursday 6 September, 2007, The Cairo International Conference Centre, Cairo, Egypt.
9. "Al-Azhar Engineering 9th International Conference," 12-14 April, 2007, Cairo, Egypt.
10. "Quality Assurance and Accreditation in Higher Education: Pathway to the Future," Egyptian Ministry of Scientific Research, 16th January, 2007, Cairo University, Egypt.
11. "Eighth International Congress of Fluid Dynamics & Propulsion (*ICFDP8*)", 14-17 December, 2006, Sharm El-Shiekh, Sinai, Egypt. The

conference is co-organized by American Society of Mechanical Engineers (ASME), Cairo, Mansoura and Zagazig Universities.

www.zu.edu.eg/asme/ICFDP8-Main.htm

12. "The Sustainable City 2006 Conference", July 17-19, 2006, Tallinn, Estonia.
13. "Thermal and Thermomechanical Phenomena in Electronic Systems Conference - *ITHERM-2006*," Sheraton San Diego Hotel & Marina, San Diego, USA, May 30-June 2, 2006, San Diego, California, USA.
14. "Al-Azhar Engineering 8th International Conference," 24-27 December, 2004, Cairo, Egypt.
15. "Al-Azhar Engineering 7th International Conference," 7-10 April, 2003, Cairo, Egypt.
16. "Seventh International Congress of Fluid Dynamics and Propulsion," 18-20 December, 2001, Cairo, Egypt.
17. "Ninth International Conference on Modelling, Monitoring and Management of Air Pollution," 12-14 September, 2001, Ancona, Italy.
18. "9th International Conference on Aerospace Sciences & Aviation Technology," 8-10 May, 2001, Military Technical College, Cairo, Egypt.
19. "ASME Fluids Engineering Division Summer Meeting," 11-15 June, 2000, Sheraton Boston Hotel, Boston, Massachusetts, USA.
20. "3rd ASME/JSME Joint Fluids Engineering Conference & FED Summer Meeting/Exhibition," 18-22 July, 1999, Hyatt Regency Hotel, San Francisco, California, USA.
21. "36th AIAA Aerospace Sciences Meeting and Exhibit," 12-15 January, 1998, Reno Hilton, Reno, Nevada, USA.
22. "ASME Fluids Engineering Division Summer Meeting," 22-26 June, 1997, Hyatt Regency Vancouver, Vancouver, British Columbia, Canada.

19. Attendance of Workshops and Meetings

(I) General

1. **One-day visit to "King Abdullah University of Science and Technology (KAUST), Saudi Arabia"**, as a member (Consultant Mechanical Engineering) of the Fakieh Research & Development Center, Saudi Arabia, June 27, 2010.
2. "Workshop on: **Standards and References of the Development of Engineering Education**", Organized by: Committee of Engineering Education Sector, Supreme Council of Universities, Egypt, Monday 26 October 2009, Social Club, Faculty of Engineering, Cairo University, Egypt.
3. "**Egyptian Engineering Day, EED 09**", 1-3 August 2009, Cairo International Conference Center, Nasr City, Cairo, Egypt. The event was organized by IEEE-GOLD-Egypt Section.
4. "Workshop on: **The Strategic Planning for the Third Round of Continuous Development and Accreditation Preparation – Part II**", *Organized by:* Ministry of Higher Education & State for Scientific Research, Egypt, Wednesday 10 June, 2009, Library Building, Faculty of Agriculture, Cairo University, Cairo, Egypt.
5. "**Sixth National TEMPUS Day 2009**", *Organized by:* Dr. Klaus Ebermann- The Head of Delegation of the European Commission to Egypt, and Prof. Hany Helal- Minister of Higher Education & State for Scientific Research, Thursday 26 March, 2009, Social Club of Faculty of Engineering, Cairo University, Cairo, Egypt.
6. Workshop on: **The Strategic Planning for the Third Round of Continuous Development and Accreditation Preparation**", *Organized by:* Ministry of Higher Education & State for Scientific Research, Egypt, Thursday 26 February, 2009, Training and Education Development Centre, Hospitals of Ain Shams University, Cairo, Egypt.

(II) Umm Al-Qura University, Makkah, Saudi Arabia

- 1- Ceremony of "Science and Technology Unit", Umm Al-Qura Univ. (UQU), Al-Abdia Campus, Makkah, Saudi Arabia, 10 February 2014.
- 2- Speaker of "Training Course on: Wind Energy and Its Application Possibilities in Saudi Arabia", Umm Al-Qura Univ. (UQU), Al-Abdia

Campus, Makkah, Saudi Arabia, 26-27 February 2013. "UQU-ASME Student Section" organized of the training course.

- 3- "Seminar on: A Highly Sustainable Assessment & Evaluation System for *ABET* Accreditation", College of Engineering and Islamic Architecture, Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia, Saturday 6 October 2012.
- 4- "Training Course: *ANSYS* Software", Mech. Eng. Dept., Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia, 10-13 March 2012.
- 5- One of the organizers of Eight workshops covering the important topics of "Energy Management in Mechanical Operations" as part of high studies program (Master degree), Mech. Eng. Dept., Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia, Second semester 2011-2012.
- 6- "Training Course: *COMSOL* - Multiphysics Software", Mech. Eng. Dept., Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia, 24-26 December 2011.
- 7- One of the organizers of Five workshops covering the important topics of "Design of Mechanical Systems" as part of high studies program (Master degree), Mech. Eng. Dept., Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia, First semester 2011-2012.
- 8- One of the organizers and speaker of "Alumni Day", Organized by: Mechanical and Electrical Engineering Depts., Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia, Wednesday 12 Oct. 2011.
- 9- "Seminar on: Nano Mechanical Testing", Presented by: Mr. Perry Lee; Territory Manager; South East Asia, Hysitron Co., USA, Organized by: Mechanical Engineering Dept., Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia, Wednesday 21 Sept. 2011.
- 10- "Seminar on: Introduction on Patenting", Presented by: Mr. Richard C. Litman; Patent and Trademark Attorney, Organized by: Innovation Center at Umm Al-Qura Univ. Location: College of Applied Science, Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia, Saturday 7 May 2011.
- 11- "Workshop on: Strategic Plane of College of Engineering and Islamic Architecture", Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia, Saturday 23 April 2011. ASME Student Section and Student Council participated in the arrangements of the workshop.

- 12-"Workshop on: *COMSOL* - Multiphysics Software", Presented by: Dr. Tamer Elnady, Ain Shams Univ., Egypt, Organized by: ASME Student Section and Student Council, Mech. Eng. Dept., Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia, Sunday 27 March 2011.
- 13-"Workshop on: Labview Applications", Presented by: representatives of "National Instruments", Organized by: ASME Student Section and Student Council, Mech. Eng. Dept., Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia, Sunday 20 March 2011.
- 14-"Workshop on: *ABET* Continuous Improvements", Guest speaker: Prof. Dr. Reda Ammar, School of Engineering, University of Connecticut, USA, Organized by: Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia, Wednesday 9 March 2011.
- 15-One of the organizers and speaker of the first meeting of "Consultation Board of the Mechanical Engineering Department", Mechanical Engineering Department, College of Engineering and Islamic Architecture, Umm Al-Qura University, Makkah, Saudi Arabia, 12 January 2011.
- 16-Sole Speaker, "Lecture on the New Evaluation Rules of B.Sc. Graduation Projects and the Initiation of New *ASME* Student Section", Mechanical Engineering Department, College of Engineering and Islamic Architecture, Umm Al-Qura University, Makkah, Saudi Arabia, 25 October 2010.
- 17-"Workshop on: Role of Faculty Members in *ABET* Accreditation", Guest speaker: Prof. Dr. Reda Ammar, School of Engineering, University of Connecticut, USA, Organized by: Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia, Tuesday 25 May 2010.
- 18-"Workshop on: *ABET* Accreditation for College of Engineering and Islamic Architecture, Umm Al-Qura University, Makkah, Saudi Arabia", Guest speaker: Prof. Dr. Reda Ammar, School of Engineering, University of Connecticut, USA, Organized by: Mechanical Engineering Dept., Al-Abdia Campus, Makkah, Saudi Arabia, Monday 24 May 2010.

(III) Zagazig University, Zagazig, Egypt

- 1- Participating as an organizer and speaker in "Workshop on the Quality Assurance in Faculty of Engineering, Zagazig University", Faculty of Engineering, Zagazig University, Egypt, 21 April 2009.

- 2- Head, "Training Workshop on: International Digital Databases for Electronic-Version of Periodicals and Books", *Organized by:* Unit of Digital Library, Supreme Council of Universities, 16-17 March, 2009, Zagazig University, Zagazig, Egypt.
- 3- Head, "Training Workshop on: International Digital Databases for Electronic-Version of Periodicals and Books", *Organized by:* Unit of Digital Library, Supreme Council of Universities, 23-24 November, 2008, Zagazig University, Zagazig, Egypt.
- 4- Head, "Training Workshop on: International Digital Databases for Electronic-Version of Periodicals and Books", *Organized by:* Unit of Digital Library, Supreme Council of Universities, 23-24 April, 2008, Zagazig University, Zagazig, Egypt.

20. Cooperation with Community Societies

(I) *Achievements and Activities of ASME (American Society of Mechanical Engineers) Student Section, Umm Al-Qura University, Makkah, Saudi Arabia: (As the Academic Advisor of the ASME Student Section)*
(Since Dec. 2010-till now)

(I.a) General

1. "Alumni Day", Organized by: Mechanical and Electrical Engineering Depts., Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia, Wednesday 12 Oct. 2011. "ASME Student Section" and "Student Council" participated in the organizing of the day.
2. "ASME Student Section" participated in "Eleventh Scientific Meeting of Hajj Researches & Hajj and Omerah Exhibition", Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia, 12-17 June 2011.
3. "Ceremony for Honoring the Students with High Academic Records", Mechanical Engineering Dept., Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia, Monday 23 May 2011. "ASME Student Section" and "Student Council" participated in the organizing of the ceremony.
4. Wining the First Place in the "ASME Old Guard Technical Poster Competition", District J 2011 Student Professional Development Conference (SPDC)", Student Section at the American University of Beirut, Beirut, Lebanon, April 29-30, 2011.

5. Construction of the ASME Student Section in December 2010.

(I.b) Training Courses

1. "Total Quality Management (*TQM*)", Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia, 25-26 February 2014.
2. "*OSHACADEM*", Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia, 15-19 December 2013.
3. "Computer Integrated Manufacturing System (*CIM*)", Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia, 2-4 December 2013.
4. "Preventive Maintenance", Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia, 5-6 November 2013.
5. "First Aid and Emergency Medical Services", Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia, 4th November 2013.
6. "First Aid and Emergency Medical Services", Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia, 1st October 2013.
7. "First Aid", Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia, 10th March 2013.
8. "Continuous Performance Improvement and Problem-Solving Strategies", Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia, 5-6 March 2013.
9. "Wind Energy and Its Application Possibilities in Saudi Arabia", Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia, 26-27 February 2013.
10. "Total Quality Management (*TQM*)", Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia, 19-20 February 2013. "ASME Student Section" and "Creativity and Entrepreneurship Club" participated in the organizing of the training course.
11. "International Journals, Publications and University Ranking", Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia, 13 February 2013.
12. "AutoDesk Inventor 3D", Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia, 8-10 December 2012. "ASME Student Section" and "Computer Club" participated in the organizing of the training course.
13. "Feasibility Study of Projects", Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia, 24-26 November 2012. "ASME Student Section" and "Student Council" participated in the organizing of the training course.

14. "Total Quality Management (*TQM*)", Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia, 6-8 October 2012. "ASME Student Section" and "Student Council" participated in the organizing of the training course.
15. "Solar Energy", Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia, 18-19 September 2012. "ASME Student Section" and "Student Council" participated in the organizing of the training course.
16. "Inventor Software", Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia, 15-17 September 2012. "ASME Student Section" and "Student Council" participated in the organizing of the training course.
17. "Manufacturing without Material Losses", College of Engineering and Islamic Architecture, Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia, 22-24 April 2012. "ASME Student Section" and "College Center of Developing Training" participated in the organizing of the training course.
18. "Computer Numerical Control (*CNC*) of Machine Tools ", College of Engineering and Islamic Architecture, Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia, 7-9 April 2012. "ASME Student Section" and "College Center of Developing Training" participated in the organizing of the training course.
19. "Technical Inspection of Leakage of the Petroleum Products in Industrial Structures", College of Engineering and Islamic Architecture, Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia, 26-28 February 2012. "ASME Student Section" and "College Center of Developing Training" participated in the organizing of the training course.
20. "Inventor Software", Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia, 17 & 21 December 2011. "ASME Student Section" and "Student Council" participated in the organizing of the training course.
21. "Solar Energy and Its Applications", Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia, 23 & 25 Oct. 2011. "ASME Student Section" and "Student Council" participated in the organizing of the training course.
22. " Factories Planning and their Production", Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia, 11-12 Oct. 2011. "ASME Student Section" and "Student Council" participated in the organizing of the training course.
23. "Matlab and Excel Software", Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia, 8 & 10 Oct. 2011. "ASME Student Section" and "Student Council" participated in the organizing of the training course.

24. "Fundamentals of Business Administration for Beginners", Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia, 26-27 July 2011. "ASME Student Section" and "Student Council" participated in the organizing of the training course.
25. "Engineering Professional Ethics" for five days; in the period from 9 to 25 May 2011. The course is directed to the students of Mechanical Engineering Dept., Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia. "ASME Student Section" and "Student Council" participated in the organizing of the training course.
26. "Engineering Drawing Using Computer (Inventor Software)", Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia, 26-30 March 2011. "ASME Student Section" and "Student Council" participated in the organizing of the training course.

(I.c) Workshops

1. "Strategic Plane of College of Engineering and Islamic Architecture", Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia, Saturday 23 April 2011. "ASME Student Section" and "Student Council" participated in the organizing of the workshop.
2. "COMSOL - Multiphysics Software", Presented by: Dr. Tamer Elnady, Ain Shams Univ., Egypt, Sunday 27 March 2011, Mech. Eng. Dept., Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia. "ASME Student Section" and "Student Council" participated in the organizing of the workshop.
3. "Labview Applications", Presented by: representatives of "National Instruments", Sunday 20 March 2011, Mech. Eng. Dept., Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia. "ASME Student Section" and "Student Council" participated in the organizing of the workshop.

(II) Cooperation with Nahdet El Mahrousa Organization, Egypt:

(II.a) Evaluation Committees

1. **Member** of the evaluation committee of "**Nahdet El Mahrousa's Young Innovators' Awards (YIA) program**", Academic years 2008-2009, 2009-2010, 2010-2011, 2011-2012, 2013-2014, 2014-2015.
2. **Member** of the evaluation committee of "**Samsung Real Dreams Awards (SRDA) Program**", organized by "Nahdet El Mahrousa's Young

Innovators' Awards (*YIA*) program" in partnership with SAMSUNG, August-September 2009, September-November 2010.

(II.b) Workshops

1. "Scientific Publication Award (*SPA*) and the International Conference Award (*ICA*) Programs strategic planning". The workshop was co-organized by "Nahdet El Mahrousa's Young Innovators' Awards (*YIA*) Program" and "Misr El Kheir Foundation (*MEK*)", Tuesday 8 December, 2009.
2. "*YIA*'s Evaluation Process". The workshop was co-organized by "Nahdet El Mahrousa's Young Innovators' Awards (*YIA*) Program" and "Misr El Kheir Foundation (*MEK*)" for the evaluation process of "Graduation Projects Award (*GPA*)", Wednesday 4 November, 2009.

(II.c) Rewards and Grants

1. One of My B.Sc. graduation projects ("Design, construction, and testing of a horizontal-axis wind turbine and application of control systems", (2008/2009)-Mechanical Power Eng. Dept., Faculty of Eng., Zagazig University, Zagazig, Egypt) participated in "Samsung Real Dreams Awards (*SRDA*) Program", organized by "Nahdet El Mahrousa's Young Innovators' Awards (*YIA*) program" in partnership with SAMSUNG under the title: "Pitch-controlled Horizontal-axis Wind Turbine", August-September 2009. The project was selected among top-fifteen projects.
2. One of My B.Sc. graduation projects ("Design, construction, and testing of a horizontal-axis wind turbine and application of control systems" (2008/2009)-Mechanical Power Eng. Dept., Faculty of Eng., Zagazig University, Zagazig, Egypt) was awarded an amount of *EGP* 6000 from Nahdet El Mahrousa (*NM*) Organization which is an Egyptian Non-Governmental Organization (*NGO*). These awards are given for graduation projects as part of Young Innovator's Awards (*YIA*) in cooperation with Industrial Modernization Center (*IMC*).
3. One of My B.Sc. graduation projects ("Automotive speed control system" (2007/2008)-Mechanical Power Eng. Dept., Faculty of Eng., Zagazig University, Zagazig, Egypt) was awarded an amount of *EGP* 4000 from Nahdet El Mahrousa (*NM*) Organization which is an Egyptian Non-Governmental Organization (*NGO*). These awards are given for graduation projects as part of Young Innovator's Awards (*YIA*) in cooperation with Industrial Modernization Center (*IMC*).

(III) Others

(III.a) General

1. **Evaluator** of "Tahrir Academy, Nabadat Foundation, Egypt, December 2014-till now.
2. **Editor and presenter**, Egyptian Broadcasting Radio Second Program, Program of "**Era of Science**", 1999.

(III.b) Activities of B.Sc. graduation projects

1. One of My B.Sc. graduation projects ["Construction and testing of a wind turbine for home use." (2010/2011) - Mechanical Engineering Department, College of Engineering and Islamic Architecture, Umm Al-Qura University, Makkah, Saudi Arabia] participated in "Soqokaz Festival", Taif, Saudi Arabia, in cooperation with "Innovation Center-Umm Al-Qura Univ.", 21-24 Sept. 2011.
2. One of My B.Sc. graduation projects ["Construction and testing of a wind turbine for home use." (2010/2011) - Mechanical Engineering Department, College of Engineering and Islamic Architecture, Umm Al-Qura University, Makkah, Saudi Arabia] participated in "Eleventh Scientific Meeting of Hajj Researches & Hajj and Omerah Exhibition", Umm Al-Qura Univ., Al-Abdia Campus, Makkah, Saudi Arabia, 12-17 June 2011.
3. One of My B.Sc. graduation projects ["Design, construction, and testing of a horizontal-axis wind turbine and application of control systems", (2008/2009)-Mechanical Power Eng. Dept., Faculty of Eng., Zagazig University, Zagazig, Egypt] participated in "Fourth National Youth Conference", Luxor, 10-16 February 2010. The project was nominated to the conference by the "Academy of Scientific Research and Technology".
4. One of My B.Sc. graduation projects ["Design, construction, and testing of a horizontal-axis wind turbine and application of control systems", (2008/2009)-Mechanical Power Eng. Dept., Faculty of Eng., Zagazig University, Zagazig, Egypt] participated in "First Arabic Competition for Small and Medium Industrial Projects (Industrial Startup @ Arab World)", organized by "Arab Science and Technology Foundation" in partnership with "Arab Union for Small Enterprises", November 2009. The project was under the title:"High-Power Wind Turbine". The project was ranked as the "**First**" among Egyptian projects and the "**Fourth**" among the whole projects from all over the Arab world.

5. One of My B.Sc. graduation projects ["Design, construction, and testing of a horizontal-axis wind turbine and application of control systems", (2008/2009)-Mechanical Power Eng. Dept., Faculty of Eng., Zagazig University, Zagazig, Egypt] participated in "Egyptian Engineering Day, *EED 09*", 1-3 August 2009, Cairo International Conference Center, Nasr City, Cairo, Egypt, under the title: "Pitch-Controlled *HAWT* Model". The event was organized by *IEEE-GOLD-Egypt* Section.

21. *Research Topics*

- Building aerodynamics.
- Computational fluid dynamics (*CFD*).
- Computational fluid dynamics in mining applications.
- Computational hydrodynamics.
- Environmental pollution (air and water).
- Experimental aerodynamics.
- Fire dynamics simulation.
- Heat transfer.
- Mechatronics applications.
- *MEMS* Applications.
- Neural Networks and Neuro-Fuzzy applications.
- New and Renewable energies.
- Plasma applications.
- Road-vehicle aerodynamics.
- Safety in Buildings/tunnels.
- Thermal design of electronic packages.
- Turbomachinery.
- Turbulence modeling and simulation.

22. Teaching Experience

1. Automatic control.
2. Computational fluid dynamics (CFD): *post- and under-graduate*.
3. Computer applications in mechanical engineering.
4. Computer-Aided-Design (CAD).
5. Design of Mechanical Systems: *post-graduate*.
6. Energy Management in Mechanical Engineering: *post-graduate*.
7. Engineering analysis.
8. Engineering drawing.
9. Engineering Ethics.
10. Engineering measurements and calibration.
11. Engineering mechanics.
12. Finite-element method: *post-graduate*.
13. Fluid dynamics.
14. Fluid mechanics.
15. Gas dynamics.
16. Heat engines.
17. Heat transfer.
18. Heating, Ventilating, and Air-Conditioning (HVAC).
19. Humanities (Methods of scientific research).
20. Neural networks applications in engineering: *post-graduate*.
21. Programming languages (C++).
22. Statistics and probability for engineers.
23. System dynamics.
24. Theory of machines.
25. Thermal design of electronic packages: *post-graduate*.
26. Thermodynamics.
27. Thermo-fluid laboratory.

28. Turbomachinery.
29. B.Sc. graduation projects.

23. Part-Time Teaching

1. Part-time teaching in “Faculty of Engineering”, October 6 University, October 6 City, Egypt, 1998-2009.
2. Part-time teaching in “Faculty of Computer and Information Science”, Ain Shams University, Cairo, Egypt, Fall-Semester, 2006-2009.
3. Part-time teaching in “Canadian International College (CIC)”, New Cairo, Cairo, Egypt, 2008-2009.
4. Part-time teaching in “Faculty of Engineering”, Misr University, October 6 City, Egypt, 2002.
5. Part-time teaching in Labor University, Zagazig, Egypt, Fall-Semester, 1999-2000.

24. Laboratories

1. Development of Fluid Mechanics Lab. in Mechanical Engineering Department, College of Engineering and Islamic Architecture, Umm Al-Qura University, Makkah, Saudi Arabia, as part of the *ABET* Accreditation process.
2. Construction and development of the Thermo-Fluid Lab. in Faculty of Engineering, October 6 University, October 6 City, Egypt. Preparing the training manual and experimental sheets of the lab. Training the demonstrators and technical staff, 2002.
3. Development of the Fluid Mechanics Lab. in Mechanical Power Engineering Department, Faculty of Engineering, Zagazig University, Zagazig, Egypt. Sharing in a project for the development of Fluid Mechanics Lab. funded by the supreme council of universities, Egypt, 1995.
4. Supervision of the Visualization and Multimedia Lab. in Mechanical Power Engineering Department, Faculty of Engineering, Zagazig University, Zagazig, Egypt, till April 2010.

5. Supervision of the Programmable Experimentation Lab. in Mechanical Power Engineering Department, Faculty of Engineering, Zagazig University, Zagazig, Egypt, till April 2010.
6. Supervision of the Fluid Mechanics Lab. in Mechanical Power Engineering Department, Faculty of Engineering, Zagazig University, Zagazig, Egypt, till April 2010.