

Dr. Osama M. Al-Habahbeh

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Amman, Jordan



Education:

- Jan. 2007– Jan.2010, Clarkson University, New York.
PhD in Mechanical Engineering, Dissertation title: "Integrated approach for physics-based reliability assessment of engineering systems". Courses taken: Monte carlo simulation, Stochastic processes, Computational fluid dynamics, Seminar, ESL Academic writing III.
- Aug. 2006- Jan. 2007, University of Toledo, Ohio.
Enrolled in the engineering sciences PhD program, Courses taken: Advanced mechanics of materials, Advanced engineering mathematics I, Elasticity.
- Oct. 2002– Feb. 2005, The University of Jordan, Amman, Jordan.
M.Sc. in Mechanical Engineering, Thesis title: "Composite LPG vessels as an alternative to steel vessels used in the local market". Courses taken: Optimum design, Computer-aided design and modeling, Mechanical vibrations, Advanced fluid mechanics, Fracture mechanics, Research methodology, Finite element method, Combustion.
- Sep.1990– Jan.1995, The University of Jordan, Amman, Jordan.
B.Sc. in Mechanical Engineering. Graduation project: Fuel-oil heating by solar energy. Practical training: Automotive maintenance engineering at the General Transportation Corporation.

Experience:

- Feb. 2016- Present, Associate Professor, Mechatronics Engineering Dept., University of Jordan.
Conduct research, Supervise students work, Serve the university and the community, Teach in accordance with ABET accreditation using both Traditional classroom and Blended-Learning environments.
- Feb. 2015- Sep. 2016, Vice Dean of Students Affairs, University of Jordan.
- Supervise and follow-up Deanship departments including administration and financial affairs, student activities, services, support, housing, health care, initiatives, human resources issues, etc..
 - University representative at the Arab Council for Training Students of Arab Universities (ACTSAU).
- Nov. 2014- Sep. 2016, Director, Career Guidance and Alumni Office/King Abdullah II Fund for Development
- Implement vision and mission of the office by planning, supervising, and follow-up.
 - Manage the staff, allocate work load, assign priorities, set long and short term goals.
 - Office duties include training, recruiting, public relations, career guidance, coordinating, and alumni relations.
 - Organize Job Fairs for University students.
 - Matching graduates with internships and full-time jobs
 - Matching students to off-campus part-time jobs
- Feb.2011– Feb.2016, Assistant Professor, Mechatronics Engineering Dept., University of Jordan.
- Member of the Faculty of Engineering & Technology Board.
 - Teaching Integrated system design, Robotic systems, Numerical methods, Automation, Modeling & Simulation, Aeronautical engineering, Dynamics and vibrations, Statics and mechanics of materials, Engineering materials and manufacturing technology.

- Published 27 research papers in peer-reviewed journals and conferences
- Supervising students projects

Sep.2010 – Feb.2011, Assistant Professor, Mechanical Engineering Dept., The Hashemite University, Zarqa, Jordan.

- Teaching Dynamics, Finite elements for Machine Design, Numerical Methods, and Strength of Materials Lab.

Jan.2010 – Sep.2010, Research Associate, Centre for Infrastructure Performance and Reliability (CIPAR), University of Newcastle, Australia.

- Reliability assessment of structures subjected to blast loading.
- Teaching Computational Fluid Dynamics (CFD).
- Advising student's projects.

Jan.2007 – Jan.2010, Research Assistant, Clarkson University jointly with GE Energy, Texas.

- Developed a reliability simulation tool for a gas turbine intercooler, including heat exchanger, pump skid, expansion joints, and bleed valves.

Aug.2006 – Jan.2007, Teaching Assistant, Mechanical, Industrial, and Manufacturing Engineering Department, University of Toledo, Ohio.

- Tutoring undergraduate engineering students.

Nov.1998 – Jul.2006, Senior Engineer and Instructor, Aircraft Performance and Flight Operations Engineering, Royal Jordanian Airlines, Amman, Jordan

- Supervised a team of performance engineers
- Member of RJ Fuel Committee (\$200 m annual purchases)
- Implemented innovative fuel savings program that lead to higher profits
- Trained pilots, engineers, and dispatchers for a number of Arab and foreign carriers
- Conducted more than 500 flight hours of aircraft auditing especially after maintenance.
- Provided technical support and planning in coordination with maintenance department
- Participated in many technical and managerial courses locally and internationally

Aug.1998 – Oct.1998, Quality Assurance Supervisor, Century Investment Group, Irbid QIZ, Jordan.

Apr.1998 – Jul.1998, Design Engineer, Nasser Investment Group, Amman, Jordan.

- Designed Steel Containers to DIN and ISO 9001 standards.

Oct.1996 – Nov.1997, Mechanical Engineer, Inmech (M) Sdn Bhd, Selangor, Malaysia.

- Designed Pressure Vessels such as water softener and sterilizer using ASME Standards.
- Designed boiler house, pumps, chimney, piping, ducts, valves, and other ancillaries.

Mar.1995 – Aug.1996, Freelance national tour leader, Jordan.

- Guided incoming tourist groups across the country.

Software skills:

Moodle, Ansys, CFX, Matlab, Simulink, Isight, LS-Dyna, Pro/Engineer, Pro/Mechanica, Fortran, Autocad, MS-Word, Excel, PowerPoint, & Project.

University courses taught:

1. Automation
2. Computational fluid dynamics
3. Dynamics
4. Engineering Materials

5. Integrated systems design
6. Introduction to Aeronautical engineering
7. Machine Design using Finite element method
8. Manufacturing Technology
9. Modeling and simulation
10. Numerical methods
11. Robotic systems
12. Statics
13. Strength of Materials
14. Vibrations

Professional consultant and trainer in the following areas:

- 1- Water networks components
- 2- Tunnel boring machine (TBM)
- 3- Hybrid vehicles maintenance engineering
- 4- Electric vehicles maintenance engineering
- 5- Negotiation skills
- 6- Engineering contracting
- 7- Industrial studies
- 8- Pumps and compressors
- 9- Supply chain management
- 10- Inventory management
- 11- Procurement
- 12- Aircraft performance
- 13- Aircraft weight & balance
- 14- Dispatcher refresher course

Clients include:

- Qatar General Electricity & Water Corporation (Kahramaa)
- Dubai Municipality, UAE
- UJ Center for Consultation, Technical Services & Studies
- Kuwait Municipality
- Public Authority for Industry, Kuwait
- Kuwait Gulf Oil Company
- Saudi Arabian Chevron Inc.
- Saline Water Conversion Corporation, Saudi Arabia
- Philippine Airlines
- Iraqi Airways
- Royal Jordanian Airlines
- Jordan Airline Training and Simulation (JATS)

Publications:

Books:

"Introduction to Aviation Engineering", STC Publications, Amman, 2017, Deposit No.: 2017/8/4291, The National Library, The Hashemite Kingdom of Jordan, Descriptors: /Flying/Engineering/629.1325, ISBN 978-9957-67-044-3 (Print), ISBN 978-9957-67-045-0 (E-Book).

Journals:

- 1- Performance-Weight Trade for Thermal Management Systems of Lithium-Ion Batteries, Jordan Journal of Electrical Engineering (JJEE), Volume 4, Number 4, 2018 Pages 224-232.

- 2- Assessment of the Local Levels of Exposure to Electromagnetic Field and Radio Frequency, Jordan Journal of Electrical Engineering (JJEE), Volume 4, Number 3, 2018 Pages 143-150.
- 3- Design optimization of a large-scale thermoelectric generator, Journal of King Saud University – Engineering Sciences (2018) 30, 177–182.
- 4- Review of magnetohydrodynamic pump applications, Alexandria Engineering Journal (2016) 55, 1347–1358.
- 5- Reliability Simulation of Solar Concentrator Receiver, International Journal of Sustainable Energy (2016), Vol. 35, No. 8, pp.793-801.
- 6- Physics-based reliability simulation of dental fillings, AMO – Advanced modeling and optimization, Vol.18, No.1, 2016.
- 7- High-Fidelity Reliability Prediction of a Tube Bundle, Int'l J. Adv Sci Tech, Vol. 83, pp.13-26, 2015.
- 8- Durability Prediction of Thin-film PV Modules, Int'l J. Eng. Simulation with Indust. Applications (IJES), Vol. 15, Issue 2, 2014, pp.13-21.
- 9- Viable Design of an Arm Prosthesis System, International Journal of Advanced Science and Technology (IJAST), Vol. 65 (2014), pp.1-18.
- 10- Integrated Simulation of a Condensate Tube Reliability Based on Transient Conditions, International Journal of Advanced Modeling and Optimization (AMO), Vol.14, No.3, 2012, pp.493-506.
- 11- High-Fidelity Reliability Assessment of a Finned Tube, International Journal of Advanced Modeling and Optimization (AMO), Vol.14, No.3, 2012, pp.507-519.
- 12- Physics-Based Reliability Assessment of a Heat Exchanger Shell, International Journal of Advanced Modeling & Optimization (AMO), Vol. 13, No. 3, 2011, pp. 477- 497.
- 13- Integrated Physics-Based Approach for the Reliability Prediction of Thermal Systems, International Journal of Reliability & Safety, Vol. 5, No. 2, 2011. pp. 110-139.
- 14- Integrated Approach for Life Prediction of Thermo-Fluidic Systems, International Journal of Advanced Modeling & Optimization (AMO), Vol. 11, No. 4, 2009, pp.449-471.

Conferences:

- 1- Stochastic reliability of unreinforced masonry walls subjected to blast. The Sixth Jordanian International Civil Engineering Conference (JICEC06), Amman-Jordan, 10-12 March, 2015.
- 2- Functional Bicep Design using Dielectric Elastomer, The 8th Jordanian International Mechanical Engineering Conference (JIMEC'8), Amman, Jordan, 22-23 Sep., 2014.
- 3- Durability Assessment of Monocrystalline Photovoltaic Cells, Zaytoonah University International Engineering Conference on Design and Innovation in Sustainability (ZEC Infrastructure 2014), May 13-15, 2014 Amman, Jordan.
- 4- Reliability investigation of photovoltaic cell using finite element modeling, Proceedings of the 9th International Symposium on Mechatronics and its Applications (ISMA13), Amman, Jordan, April 9-11, 2013, pp. 1-5.
- 5- Stochastic Simulation of a Power Generation Air Joint, Proceedings of IEEE Jordan Conference on Applied Electrical Engineering and Computing Technologies (AEECT), Amman, Jordan, 6-8 Dec. 2011.
- 6- Reliability Prediction of a Return Thermal Expansion Joint, Proceedings of Jordan International Energy Conference (JIEC), Amman, Jordan, 20-22 Sep. 2011.
- 7- Structural Reliability Analysis of Unreinforced Brick Masonry Walls Subject to Explosive Blast Loading, Proceedings of the First International Conference of Protective Structures (ICPS), Manchester, UK, Sep. – Oct. 2010.
- 8- Integrated Physics-Based Approach for the Reliability Prediction of Thermal Systems, IMECE2009-13342, Proceedings of ASME International Mechanical Engineering Congress and Exposition, Florida, Nov. 2009, pp. 283-295.
- 9- Integrated Approach for Life Prediction of Complex Thermal Systems, IMECE2009-13343, Proceedings of ASME International Mechanical Engineering Congress and Exposition, Florida, Nov. 2009, pp.109-120.
- 10- Reliability Prediction for a Thermal System Using CFD and FEM Simulations, IMECE2008-68365, Proceedings of ASME International Mechanical Engineering Congress and Exposition, Boston, MA, 2008, pp. 195-204.

- 11- Evaluation of Heat Transfer Effect on a Thermal System Using Numerical Simulation, IMECE2008-68368, Proceedings of ASME International Mechanical Engineering Congress and Exposition, Boston, MA, 2008, pp. 677-683.
- 12- Composite LPG Cylinders as an Alternative to Steel Cylinders: Finite Element Approach, Proceedings of International Conference on Manufacturing and Materials Processing (ICMM 2006), Kuala Lumpur, Malaysia, 2006, pp. 363-368.
- 13- Composite Pressure Vessels in Petroleum Industry: Status and Outlook, Proceedings of International Conference on Composite Science and Technology (ICCST/5), American University of Sharjah, UAE, 2005, pp. 401-406.

Technical Reports:

- Optimum transportation system for the city of Amman, DOI: 10.13140/RG.2.2.26874.59843, No.: UJMX-20181, June 2018.

Honors and awards:

- Recognition Award, Arab Council for Training Students of Arab Universities, 2016.
- Honor Shield, Benevolent Fund for Outstanding Students, 2016.
- Honor Shield, Fayoum University, 2016.
- Project Award, 8th National Technology Parade, 2015.
- Volunteer Award, Jubilee Center for Excellence in Education, King Hussein Foundation, 2012.
- Instructor Award, UJ Student Union, 2012.
- URC Medal of Honor, National Educational Center for Robotics, 2011.
- Medal of Honor, Arab Open Robotics Championship, 2011.
- METS Award, King Abdulla II School for IT, 2011.
- Post-Doctoral Fellowship, University of Newcastle, 2010.
- GE Energy PhD Scholarship, Clarkson University, 2007-2010.
- Excellence in Service Award, Royal Jordanian Airline, 2004.
- BSc Scholarship, Jordan Armed Forces, 1990-1995.
- Top 5% of the Al-Shobak Secondary School Class 1990.

Services:

- Member of capacity raising committee, Accreditation and Quality Assurance Commission for Higher Education Institutions, Sep 2017.
- Chair of the specifications committee for automotive lab and training center at the University of Jordan, with focus on hybrid and electric vehicles, Mar.2017.
- Supervisor of the Annual UJ Hajj Mission, 2016.
- Chairperson and member of several candidate screening committees.
- Member of the Editorial Board of the International Journal of Mechanical Engineering (IJME), ISSN (Print): 2319-2240, ISSN (Online): 2319-2259.
- Member of Technical Program Committee, 9th International Symposium on Mechatronics and its Applications (IEEE ISMA'13), Amman, Jordan, Apr.2013.
- Judge at the 6th and 7th National Robot Competitions, Jubilee Center for Excellence in Education, Feb. 2011, 2012.
- Advisor of a delta robot project that won 3rd place out of 18 competitors at METS 2011.
- Advisor of a maze robot project that won best program award at the Annual Robot Competition for Universities, Philadelphia University, Feb. 2011.
- Reviewer for peer-reviewed journals such as: Journal of Aerospace Engineering, Journal of Electronic Materials, Jordan Journal of Mechanical and Industrial Engineering, International Journal of Power Electronics and Drive Systems, Journal of Ships and Offshore Structures
- Contributed to the development of new designs for a number of major car manufacturers.

Short Courses taken:

- 1- Training workshop on E-Learning, UJ Accreditation and Quality Assurance Center, Mar, 2018.

- 2- Smart research using big data, UJ Accreditation and Quality Assurance Center, Mar, 2018.
- 3- Training workshops on Instructional design strategies, Effective teaching skills, Evaluation & testing, Rules & regulations and Academic work ethics, University of Jordan, Sep – Oct 2011.
- 4- Faculty Development Workshop, Clarkson University, May 2007.
- 5- Teaching Assistants Training, University of Toledo, Ohio, Aug 2006.
- 6- Instructional Techniques, Royal Jordanian Training Center, Amman, Jordan, Feb 2000.
- 7- Human Factors, Royal Jordanian Training Center, Amman, Jordan, Feb - Mar 1999.
- 8- Internal quality auditing, Abu- Ghazaleh Quality Assurance, Amman, Jordan, Jun 1998.
- 9- Customer care workshop, JATS, Amman, Jordan, Oct 2005.
- 10- Flight operations management, AACO regional training center, Amman, Jordan, Feb 2005.
- 11- Aviation security awareness Jun 2003.
- 12- Performance Engineer, Airbus, Toulouse, France, 1998, 2000, 2002.
- 13- Weight & balance engineer, Airbus, Amman, Jordan, Jun 2002.
- 14- Operations Engineering, Boeing, Washington, May, Jun 2000.
- 15- Tourist guide course, Center for Consultation, Technical Services & Studies, Amman, Jordan, Jun – Jul 1995.

Presentations & Workshops:

- Workshop on Industrial innovation program, Amman Chamber of Industry, Oct. 2017.
- Represented University of Jordan at the annual meeting of the Arab Council for Training Students of Arab Universities (ACTSAU), May, 2016, Fayoum University, Egypt.
- Represented the University of Jordan at the annual meeting of the National Democratic Institute (NDI), 2015, PSUT, Amman.
- Represented University of Jordan at the annual meeting of the Arab Council for Training Students of Arab Universities (ACTSAU), May, 2015, JUST, Jordan.
- Poster: “Reliability Assessment Model for a Gas Turbine Intercooler Circuit Using CFD and FEM”, presented at The 8th Annual Symposium on Environmental & Energy Systems, Syracuse, New York, Sep 2008.
- Presentation: “Thermal Model for Intercooler System Components, Presented to General Electric, Houston, Texas, May 2008.
- Poster: “Use of Reliability and Life Assessment Techniques to Analyze Corrosion & Fatigue in Intercooler Systems”, presented at CAMP Annual Technical Meeting, Canandaigua, New York, May 2007.
- Presentation: “Thermal Model for Gas Turbine System Components”, presented to General Electric, Houston, Texas, Mar 2007.
- Workshop: Cost Index Optimization, Airbus, Toulouse, France, May 2004.
- Presentation: “Less Paper Cockpit (LPC) Feasibility Study”, Presented to CEO of Royal Jordanian Airlines, Amman, Jordan, Feb 2003.
- Workshop: “Fuel Monitoring System”, SITA, London, UK, Dec 2000.
- Workshop: “Less Paper Cockpit Integration”, Airbus, Toulouse, France, Sep 1999.

Professional Associations Membership:

- Jordan Engineers Association (JEA)
- American Society of Mechanical Engineers (ASME)
- Engineering Society for Advancing Mobility (SAE International)
- Institute of Electrical and Electronics Engineers (IEEE)

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