

## Dr. Osama M. Al-Habahbeh

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Amman, Jordan



### Education:

- Aug.2006 – Jan.2010, Clarkson University, New York.  
PhD in Mechanical Engineering/Reliability of Engineering Systems.
- Oct.2002 – Feb.2005, The University of Jordan, Amman, Jordan.  
M.Sc. in Mechanical Engineering/Composite Materials.
- Sep.1990 – Jan.1995, The University of Jordan, Amman, Jordan.  
B.Sc. in Mechanical Engineering

### Experience:

Feb.2011– Present, Assistant Professor, Mechatronics Engineering Dept. The University of Jordan.

- Member of the strategic planning team at the University of Jordan.
- Member of the Faculty of Engineering & Technology Board.
- Member of the ABET compliance committee at the Faculty of Engineering and technology.
- Member of Mechatronics Engineering Department Council
- Teaching Systems integration, Robotic systems, Numerical methods, Automation, Modeling & Simulation, and Aeronautical Engineering.
- Published 17 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, Mechanical and Aeronautical Engineering Department, Clarkson University, New York.

- Developed a high-fidelity reliability simulation tool for a gas turbine intercooler.

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

- Tutored 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 Metal Containers, 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 layout, chimney, piping, ducts, and other ancillaries.

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

- Guided incoming tourist groups across the country.

1980-1990, Involved in family business including retail, construction, and farming.

1986-1987, Contributed to the development of new designs for a number of major car manufacturers.

#### **Consultations:**

- GE Energy, Houston, Texas
- The University of Newcastle, Australia
- Carrier (Malaysia) Sdn. Bhd.
- Philippine Airlines
- Saline Water Conversion Corporation, Saudi Arabia
- Iraqi Airways
- Nasser Investment Group Holding, Jordan
- National Educational Center for Robotics (NECR), Jordan

#### **Services:**

- Member of the Editorial Board of the International Journal of Mechanical Engineering (IJME).
- Member of the technical program committee of the 9th IEEE International Symposium on Mechatronics and its Applications (ISMA 2013)
- Judge at the 6<sup>th</sup> and 7<sup>th</sup> National Robot Competitions, Jubilee Center for Excellence in Education, Feb. 2011, 2012.
- Advisor of a delta robot project that won 3<sup>rd</sup> 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.
- Review of Multi-physics Coupled Fluid/Thermal/Structural Simulation for Hypersonic Reentry Vehicles, ASENG-134, Journal of Aerospace Engineering. 2011.

#### **Short Courses:**

- 1- Training workshops on: Instructional design strategies, Effective teaching skills, Evaluation & testing, Rules & regulations and Academic work ethics, The University of Jordan, Sep – Oct 2011.
- 2- Faculty Development Workshop, Clarkson University, New York, May 2007.
- 3- Teaching Assistants Training, University of Toledo, Ohio, Aug 2006.
- 4- Instructional Techniques, Royal Jordanian Training Center, Amman, Jordan, Feb 2000.

- 5- Human Factors, Royal Jordanian Training Center, Amman, Jordan, Feb - Mar 1999.
- 6- Internal quality auditing, Abu- Ghazaleh Quality Assurance, Amman, Jordan, Jun 1998.
- 7- Customer care workshop, JATS, Amman, Jordan, Oct 2005.
- 8- Flight operations management, AACO regional training center, Amman, Jordan, Feb 2005.
- 9- Aviation security awareness Jun 2003.
- 10- Performance Engineer, Airbus, Toulouse, France, 1998, 2000, 2002.
- 11- Weight & balance engineer, Airbus, Amman, Jordan, Jun 2002.
- 12- Operations Engineering, Boeing, Washington, May, Jun 2000.
- 13- Tourist guide course, Center for Consultation, Technical Services & Studies, Amman, Jordan, Jun – Jul 1995.

### **Presentations & Workshops:**

- Poster: “Reliability Assessment Model for a Gas Turbine Intercooler Circuit Using CFD and FEM”, presented at The 8<sup>th</sup> 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:**

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

### **Software skills:**

ANSYS<sup>®</sup>, CFX<sup>®</sup>, Isight<sup>®</sup>, LS-DYNA<sup>®</sup>, Pro/ENGINEER<sup>®</sup>, Pro/MECHANICA<sup>®</sup>, MATLAB<sup>®</sup>, SIMULINK<sup>®</sup>, FORTRAN<sup>®</sup>, AutoCAD<sup>®</sup>, MS-Word<sup>®</sup>, Excel<sup>®</sup>, PowerPoint<sup>®</sup>, & Project<sup>®</sup>.

### **Publications:**

- 1- O.M. Al-Habahbeh, B.A. Al-Hrout, E.M. Al-Hiary and S.A. Al-Fraihat, Reliability investigation of photovoltaic cell using finite element modeling, Proceedings of the 9<sup>th</sup> International Symposium on Mechatronics and its Applications (ISMA13), Amman, Jordan, April 9-11, 2013.
- 2- Al-Habahbeh O.M., 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.
- 3- Al-Habahbeh O.M., High-Fidelity Reliability Assessment of a Finned Tube, International Journal of Advanced Modeling and Optimization (AMO), Vol.14, No.3, 2012, pp.507-519.
- 4- Al-Habahbeh O.M., Aidun D.K., Marzocca P., Stochastic Simulation of a Power Generation Air Joint, Proceedings of IEEE Jordan Conference on Applied Electrical Engineering and Computing Technologies (AEECT), 6-8 Dec. 2011.
- 5- Al-Habahbeh O.M., Aidun D.K., Marzocca P., Physics-Based Reliability Assessment of a Heat Exchanger Shell, International Journal of Advanced Modeling & Optimization (AMO), Vol. 13, No. 3, 2011, pp. 477-497.

- 6- Al-Hababbeh O.M., Aidun D.K., Marzocca P., Reliability Prediction of a Return Thermal Expansion Joint, Proceedings of Jordan International Energy Conference (JIEC), Amman, Jordan, 20-22 Sep. 2011.
- 7- Al-Hababbeh O.M., Aidun D.K., Marzocca P., Lee H., Integrated Physics-Based Approach for the Reliability Prediction of Thermal Systems, International Journal of Reliability & Safety, Vol. 5, No. 2, 2011. pp. 110-139.
- 8- Al-Hababbeh O.M. and Stewart M.G., Structural Reliability Analysis of Unreinforced Brick Masonry Walls Subject to Explosive Blast Loading, Proceedings of the First International Conference of Protective Structures, Manchester, UK, Sep. – Oct. 2010.
- 9- Al-Hababbeh O.M., Aidun D.K., Marzocca P., Lee H., Integrated Approach for Life Prediction of Thermo-Fluidic Systems, International Journal of Advanced Modeling & Optimization (AMO), Vol. 11, No. 4, 2009, pp.449-471.
- 10- Al-Hababbeh O.M., Aidun D.K., Marzocca P., Lee H., 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.
- 11- Al-Hababbeh O.M., Aidun D.K., Marzocca P., Lee H., Integrated Approach for Life Prediction of Complex Thermal Systems, IMECE2009-13343, Proceedings of ASME International Mechanical Engineering Congress and Exposition, Florida, Nov. 2009.
- 12- Al-Hababbeh O.M., Aidun D.K., Marzocca P., Lee H., 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.
- 13- Al-Hababbeh O.M., Aidun D.K., Marzocca P., Lee H., 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.
- 14- Al-Huniti N.S., Al-Hababbeh O.M., 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.
- 15- Al-Hababbeh O.M., Al-Huniti N.S., 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.

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