

DR. NIDAL H. ABU-HAMDEH

Professor, Department of Mechanical Engineering, King Abdulaziz University

### Education

<i>Degree</i>	<i>Field</i>	<i>Institution</i>	<i>Year</i>
PhD	Mechanical Engineering	The Ohio State University, USA	1995
MS	Mechanical Engineering	The Ohio State University, USA	1993
BS	Mechanical Engineering	Yarmouk University, Jordan	1987

### Academic Experience

<i>From</i>	<i>To</i>	<i>Institution</i>	<i>Rank</i>	<i>Title (Chair, Coordinator, etc.)</i>	<i>Full or Part Time</i>
1996	2001	Jordan University of Science & Technology	Assist Prof.		Full Time
2001	2006	Jordan University of Science & Technology	Assoc. Prof.		Full Time
2006	2011	Jordan University of Science & Technology	Professor		Full Time
2011	present	King Abdulaziz University	Professor		Full Time

### Non Academic Industrial Experience (including Consultations)

<i>From</i>	<i>To</i>	<i>Company/Entity</i>	<i>Title</i>	<i>Position Description (Brief)</i>	<i>Full or Part Time</i>
1988	1990	Royal Jordanian Air force	Workshop Engineer	Heavy Equipment Maintenance	Full Time
1990	1991	Joint Venture Engineering Consortium and Dangroup International, Jordan	Site Engineer	Supervising Engineering Works; Central Heating, Air Conditioning, Piping Layout.	Full Time

### Funded Research Projects and Patents from the Past Five Years

1. HiCi Research Initiative Funded Project-(3-4-1432/HiCi), King Abdulaziz University, *Gradient Material Mechanics (GMM) Across Scales: New Directions and Areas of Interdisciplinary Research Activity with Applications to Advanced Technologies, 2012, Finished.*
2. HiCi Research Initiative Funded Project-(1-135-35-HiCi), King Abdulaziz University, *Exploring the Applicability of Gradient Material Mechanics (GMM) to Li-ion Batteries (LiBs), 2013, Running.*
3. Strategic Research Funded Project-(2-NAN3083-03) Gradient Mechanics Across Disciplines and Materials with focus on Micro/Nano Transition [GradMech-ADMS], 2013, Pending.

### Certifications and Professional Registrations

Registered Professional Engineer in Jordan

### Current Membership in Professional Societies and Organizations

<i>Society/organization</i>	<i>Rank</i>	<i>Member Since</i>
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1. Jordan Engineering Association	Member	1987
2. Jordan Environment Society	Member	1996
3. American Society of Testing Material, ASTM	Member	2005

### **Honours and Awards**

1. Awarded the Abdul Hameed Shoman Award for Engineering Sciences for Young Arab Researchers – 2003.
2. Awarded the Hisham Hijjawi Award for Applied Sciences in the Field of Engineering – 2004.
3. Fulbright Visiting Scholar Award to the year of 2002-2003
4. Honor Society Phi Kappa Phi - Columbus, Ohio-USA
5. Honor Society Alpha Epsilon - Columbus, Ohio-USA
6. Certificate of Appreciation from the Society of Automotive Engineers (SAE)-Milwaukee, Wisconsin-USA
7. Graduate Academic Scholarship from Jordan University of Science & Technology (J.U.S.T.)

### **Institutional and Professional Services** (*administration, committees, units, etc.*)

1. Jury member for the Fourth Scientific Conference for students in King Abdul Aziz University-2013
2. Jury member for the distinctive accomplishments and patents by the students of King Abdul Aziz University-2013
3. Academic advisor for more than 100 students, over 15 years, Mechanical Eng. Dept., JUST & KAU, 1997-present.
4. Coordinator of several Faculty of Engineering Committees (Curriculum, Postgraduate, and Strategic Planning), JUST & KAU.
5. Committee member to prepare a proposal for the establishment of the Advanced Industrial Training Center, KAU
6. Committee member to prepare the PhD program in the Mechanical Engineering Department, KAU

### **Principal Publications/Presentations from the Past Five Years**

1. Nidal H. Abu-Hamdeh, Khaled A. Alnefaie, Khalid H. Almitani: An Analytical Solution of the Dynamics of a Symmetrically Operated Parallel Flow Heat Exchanger. 2013. Heat and Mass Transfer Journal, Volume 49, Issue 10, Page 1471-1479, DOI 10.1007/s00231-013-1185-0. ISSN 0947-7411
2. Nidal H. Abu-Hamdeh, Khaled A. Alnefaie, Khalid H. Almitani: Design and performance characteristics of solar adsorption refrigeration system using parabolic trough collector: Experimental and statistical optimization technique. 2013. Energy Conversion and Management, Vol (74): pp 162-170. DOI information: 0.1016/j.enconman.2013.04.043
3. K.A. Lazopoulos, K.A. Alnefaie, N.H. Abu-Hamdeh, E.C. Aifantis. 2013. THE GRADELA PLATES & SHELLS. Proceedings of SSTA 2013 - CRC Press/ London (Taylor & Francis Group), Eds. J. Gorski and W. Pietraszkiewicz, Vol. (3); 121-124, 2013, ISBN: 1138000825, 9781138000827.
4. K.Y. Xu, K.A. Alnefaie, N.H. Abu-Hamdeh, K.H. Almitani and E.C. Aifantis. 2013. Dynamic Analysis of a Gradient Elastic Polymeric Fiber. Acta Mechanica Solida Sinica, Vol. 26(1): pp 9-20.
5. Nidal H. Abu-Hamdeh, Khaled A. Alnefaie, Majed K. Al-Hajjaj. 2012. Conceptual Design of Solar Powered Unmanned Aerial Vehicle. Applied Mechanics and Materials, Vol. 225: pp 299-304.
6. K.Y. Xu, K.A. Alnefaie, N.H. Abu-Hamdeh, K.H. Almitani and E.C. Aifantis. 2013. Free Transverse Vibrations of a Double-Walled Carbon Nanotube: Gradient and Internal Inertia Effects. Acta Mechanica Solida Sinica. Accepted for Publication.
7. Nidal H. Abu Hamdeh, Mu'taz A. Al-Muhtaseb 2010. Optimization of Solar Adsorption Refrigeration System Using Experimental and Statistical Techniques. Energy Conversion and Management: 51 (8), 1610-1615 (<http://dx.doi.org/10.1016/j.enconman.2009.11.048>)
8. Nidal H. Abu-Hamdeh. 2009. Effect of Cooling the Recirculated Exhaust Gases on Diesel Engine Emissions. Energy Conversion and Management: 44: 3113-3124.
9. Nidal H. Abu-Hamdeh and Hamid F. Al-Jalil. 2009. Computer Simulation of Stability and Control of Tractor-

Trailed Implement Combinations under Different Operating Conditions. BRAGANTIA: 63(1): 149-162.

**Recent Professional Development Activities** (*Workshops, training, etc.*)

1. ABET Program Assessment Workshop, Ali M. Al-Bahi, Lecturer, King Abdulaziz University, Jeddah, Saudi Arabia, 2012.