

# Mohamed Gaith

## Assistant Professor

**Current Academic Rank:** Assistant Professor

**Current University:**

**Current Faculty:** Engineering

**Specialization:** Applied Mechanics and Design, Structural Analysis, Vibration Analysis & Control, Stress Analysis, Manufacturing process, and Materials; Fiber Reinforced Composite Material Structures.

### PERSONAL DATA

**Name:** Mohamed Gaith  
**Date of Birth:** February 6, 1971  
**Place of Birth:** Amman - Jordan

**Mailing Address (Jordan):** P.O. Box 710709, Amman, 11172, Jordan  
**Phone:** +962-796-899-204 (Amman)  
**Email:** mgaith@coe.neu.edu

**Work Address:**  
**Mechanical Engineering Department**  
**Faculty of Engineering Technology**  
**Al-Balqaa Applied University**  
**Amman-Jordan**

## ACADEMIC QUALIFICATIONS

*June 2000 – Summer 2005*

*Northeastern University*

*Boston, MA*

- PhD in Mechanical Engineering, Mechanical, and Industrial Engineering Department.
- QPA of 3.6.
- Field –, Vibration Analysis, Applied Mechanics and Design, and Composite Materials.
- Courses: Theory of Elasticity; Vibrations, MEMS, Advanced Mechanics, Fiber-Reinforced Composite Materials; Experimental Analysis; Fluid Dynamics; Theory of Plates; Theory of Shells; Energy Methods; Finite Element Methods; Finite Difference Methods; Simulations.
- Title of Thesis: Transverse Vibration of Two Continua Interconnected by an Elastic Foundation: Stationary and Axially Translating Cases.
- Research: We have analyzed and developed an exact form solution for double beams/strings connected by Winkler elastic foundation; stationary and axially translating, and we obtained the natural frequencies and vibration properties for this system. *For the first time, the exact closed form solution for this system is obtained.* The conclusions of study can be implemented on many engineering applications like the noise isolation for airplane cabinet and aerospace shuttles.

*January 1998 – 2002 Middle East Technical University Ankara, Turkey*

- PhD in Engineering Sciences, Engineering Sciences Department.
- QPA of 3.5.
- Field – Applied and Continuum Mechanics.
- Title of Thesis: Orthonormal Decomposition of Anisotropic Materials.
- Research: We have introduced and developed a new method to express any anisotropic engineering tensor showing the effect of the material properties on the structures. We have introduced a new decomposed form for the stress tensor (second rank tensor) different from the one available in the literature where the engineering understanding is improved. Also, we have introduced new decomposed forms for the piezoelectric materials where we can define the stress and the optimum direction of polarization especially in semiconductors. The stiffness of any anisotropic biomedical or composite material is can be optimized in mechanical technology deign.

*January 1996 – 1998*

*Middle East Technical University*

*Ankara, Turkey*

- M.Sc. in Engineering Sciences, Engineering Sciences Department.
- QPA of 3.0.
- Field – Composite Materials, Applied Mechanics and Design.
- Title of Thesis: Dynamic Response of Fiber Reinforced Cylindrical Composite Materials.
- Research: We have found the dynamic response and stress distribution for the most anisotropic engineering materials like the fiber reinforced composites (Graphite/Epoxy and others) with different angle orientations for n plies in the cylindrical coordinates for many mechanical engineering applications and technologies.

*September 1989–June 1993*

*University of Jordan*

*Amman, Jordan*

B.Sc., Faculty of Science.

## LANGUAGES

Language Proficiency	Reading	Writing	Conversation
English	Excellent	Excellent	Excellent
Arabic	Excellent	Excellent	Excellent
Turkish	Very Good	Very Good	Excellent

## COMPUTER SKILLS

**Operating Systems:** UNIX, LINUX (Red Hat 9), MS-Windows NT 4.0, MS-DOS.

**Languages:** C/C++, Pascal, Assembly, Fortran.

**Software:** Different software packages for Word Processing, Data Processing, Graphics, Statistics, Mathematics, Data Acquisition; Matlab. Mathematica, Mathcad, AutoCad, ProEngineering, and Solid Works.

**Hardware:** SUN, VAX 11/780, IBM PC, Macintosh.

## TEACHING HISTORY

Institution	Period		Job Title	Nature of Work
	From	To		
Al-Balqaa Applied University	9/2007	present	Assistant Professor	T / R
Al- Isra University, Amman-Jordan	2/2006	9/2007	Assistant Professor	T / R
Northeastern University, Boston, MA	12/2001	10/2005	Lecturer	T
Northeastern University, Boston, MA	06/2000	09/2004	Teaching Assistant	T / R
Middle East Technical University, Turkey	09/1996	06/2000	Teaching Assistant	T / R
Diplomat High School, Turkey	09/1994	07/1996	Teacher	T

*Note: T: Teaching; R: Research; S: Services.*

## UNIVERSITY TEACHING

University level courses I taught as Lecturer: *All courses are taught in English:*

Institution	Course No./Title	Date Course Offered
BAU	Dynamics Numerical Methods for Engineers	Fall 2008
BAU	Mechanical Design Machine Components and Mechanism Numerical Methods for Engineer	Spring 2008
BAU	Strength of Materials Dynamics and Vibration Energy Management and Economy	Fall 2007
A U	Structure Analysis II Statics Engineering Mathematics	Summer 2007
A U	Structure Analysis II	Spring 2007
A U	Concrete and Steel Structure for Architects.	Spring 2007
A U	Engineering Mathematics	Spring 2007
A U	Statics	Spring 2007 Fall 2006 Spring 2006
A U	Education for Employment(American course)	Spring 2007 Fall 2006
A U	Strength of Materials	Fall 2006
A U	Steel Structural design	Summer 2006
A U	Dynamics	Spring 2006
A U	Structural analysis I	Fall 2006 Summer 2006 Spring 2006
A U	Numerical Methods for Engineers	Summer 2006 Spring 2006
NEU	MET E311: Stress Analysis	Fall 2005 Fall 2004
NEU	MET E414: Mechanical Vibrations	Spring 2005 Spring 2004 Spring 2003
NEU	MET E301: Dynamics	Spring 2005 Spring 2004
NEU	MET E351: Measurements and Analysis	Fall 2002

NEU	MET E352: Measurements and Analysis Labs	Fall 2004 Fall 2003 Fall 2002
NEU	MET E312: Stress Analysis Labs	Summer 2005 Fall 2005 Fall 2004 Spring 2003 Spring 2002
NEU	MET E352: Fluid Mechanics Labs	Spring 2002 Spring 2003
NEU	MET E352: Thermodynamics Labs	Summer 2005 Summer 2004 Winter 2002

*NEU: Northeastern University*  
*AU: Al-Isra University, Amman*  
*BAU: Al-Balqaa Applied University*

## **I CAN (AND INTERESTED) TEACH THE FOLLOWING TOPICS**

1. Structural Analysis
2. Structural Steel Design
3. Finite Element Analysis
4. System Identification
5. Strength of Materials
6. Numerical Methods for Engineers
7. Mathematics for Civil engineers
8. Vibration isolation in earthquakes
9. Dynamics
10. Statics
11. Materials
12. Structural Dynamics
13. Manufacturing and Design
14. Manufacturing Methods
15. Material Processes
16. Steel; manufacturing and design
17. Mathematics for Mechanical engineers
18. Theory of Vibration
19. Mechanics of Composite Materials
20. Theory of Elasticity
21. Wave Propagation
22. Continuum Mechanics
23. Static and Dynamics
24. Stress Analysis and Design
25. Computational and Statistical Methods in Engineering
26. Mechanics of Composite Materials
27. Special Interdisciplinary Topics of the above Courses

## RESEARCH AND CREATIVE ACTIVITIES

1. I have the following articles published in Journals and International Conference Journals:

1. **Gaith, M., and Akgoz, C.**, 2007, “On The Measurements Of The Properties of Anisotropic Piezoelectric and Elastic Composite Materials”, *The Sixth Jordanian International Mechanical Engineering Conference 22-24 October 2007, Amman-Jordan*
2. **Gaith, M., and Muftu, S.**, 2007, “The Vibration Of Two Axially Translating Media Interconnected By Winkler Elastic Foundation, *Ninth International Conference on Web Handling, June 10-13, 2007, Oklahoma.*
3. **Gaith, M., Masters, J., and Muftu, S.**, 2006, “Analytical and Experimental Natural Frequencies of Transverse Vibration of Sandwich Beams Interconnected by Winkler Elastic”, Aerospace Division, *ASME International Mechanical Engineering Congress and Exposition, 5 -10 Nov. 2006, Chicago, Illinois.*
4. **Gaith, M., and Muftu, S.**, 2006, “The Vibration of Two Axially Translating Strings Interconnected by Winkler Elastic Foundation”, *ASME International Mechanical Engineering Congress and Exposition, 5 -10 Nov. 2006, Chicago, Illinois.*
5. **Gaith, M., and Akgoz, C.**, 2006, “On The Properties Of Anisotropic Piezoelectric And Fiber Reinforced Composite Materials”, Materials Division, *ASME International Mechanical Engineering Congress and Exposition, 5 -10 Nov. 2006, Chicago, Illinois.*
6. **Gaith, M., and Muftu, S.**, 2006 “Free Vibration Analysis Of Two Axially Translating Strings Interconnected By A Continuous Elastic Foundation”, ASME/JSME Joint Conference on Micromechatronics for Information and Precision Equipment (MIPE 2006) Santa Clara, CA, June 21-23, 2006
7. **Gaith, M., and Muftu, S.**, 2005, “Transverse vibration of two continua interconnected by an elastic foundation: stationary and axially translating cases”, *Journal of Vibration and acoustics.*
8. **Gaith, M., and Muftu, S.**, 2005, “Transverse vibration of two axially moving, tensioned beams connected by an elastic foundation”, *Vibration and noise control, ASME International Mechanical Engineering Congress and Exposition, 8 -15 Nov. 2005, Orlando, Florida.*
9. **Gaith, M., and Akgoz, Y.C.**, 2005, “A new representation for the properties of anisotropic elastic fiber reinforced composite materials”, *Reviews on Advanced Materials Science (RAMS) Journal, 10*, pp37-42.
10. **Turhan, D., and Gaith, M.**, 2000, “Transient Wave Propagation in Anisotropic Layered Cylindrical Media”, Durban, *SACAM 2000, International Conference on Applied Mechanics.*
11. **Turhan, D., and Gaith, M.**, 1999, “Transient Dynamic Shear Response of Filament Wound Cylindrical Composites”, *Proceedings of the Fourth European Conference on Structural Dynamics, Prague, pp. 103-108.*
12. **Turhan, D., and Ghaith, M.**, 1999, “Fiber Reinforced Cylindrical Composites”, In Turkish, *Third National Conference on Applied Mechanics, Istanbul, Turkey.*
13. **Turhan, D., and Gaith, M.**, 1998, “Transient Wave Propagation in Filament

Wound Cylindrical Composites”, *The Fourth International Conference of Mathematical and Numerical Aspects of Wave Propagation*, Colorado, pp. 459-461.

### **Awards and Honors**

- Awarded a Teaching Assistantship at Northeastern University (2000-2004).
- Awarded a Teaching Assistantship at Middle East Technical University, Ankara, Turkey (1996-2000).
- President of International Debate Club at Middle East Technical University, Ankara, Turkey (for 2 years).

### **MEMBERSHIP OF PROFESSIONAL ORGANIZATIONS**

American Society of Mechanical Engineers (ASME)

Jordan Engineers Association (JEA)