



Department of Mechanical Engineering

The Hashemite University

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## Dr. Hitham M. Tlilan

د. هيثم محمود تليان

### Personal Information

Nationality	Jordanian
Country	Jordan
Marital Status	Married (4 Children)
Date of Birth	June 1, 1969.
Place of Birth	Irbid – Jordan

### Education

2005	Ph.D., Mechanical Engineering, Chiba University, Chiba, Japan
1996	Graduate Diploma, Mechanical Engineering, Jordan University of Science and Technology (JUST), Irbid, Jordan.
1992	B.Sc., Mechanical Engineering, Jordan University of Science and Technology (JUST), Irbid, Jordan.

### Professional Experience

3/2012 ~ Present, The Hashemite University,	Zarqa, Jordan
<i>Associate Professor, Department of Mechanical Engineering</i>	
5/2010 ~ 10/2012, The Hashemite University,	Zarqa, Jordan
<i>Department Head, Department of Mechanical Engineering</i>	
9/2006 ~ 2/2012, The Hashemite University,	Zarqa, Jordan
<i>Assistant Professor, Department of Mechanical Engineering</i>	

#### Research:

- Strain-concentration factor of circumferentially V-notched cylindrical bars under static tension

- Strain-concentration factor of cylindrical bars with double circumferential U-notches under static tension
- Interference effect on strain-concentration factor of cylindrical bars with double circumferential U-notches Under static tension
- Strain-concentration factor of notched cylindrical austenitic stainless steel bar with double slant circumferential U- notches under static tension
- Non-linear dynamic behavior of compound planetary gear trains: model formulation and semi-analytical solution.
- Enhancement of a cylindrical separator efficiency by using double vortex generators
- The Effects of the Secondary Fluid Temperature on the Energy Transfer in an Unsteady Ejector with a Radial-Flow Diffuser
- Investigation of the Mach number effects on fluid-to fluid interaction in an unsteady ejector with a radial-flow diffuser
- Strongly swirling flows in a cylindrical separator

**2 / 2006 ~ 8 / 2006 - The Hashemite University,**

**Zarqa, Jordan**

*Lecturer, Department of Mechanical*

**10 / 2005 ~ 1 / 2006, Vocational Training Co.,**

**Amman, Jordan**

*Training Director, Vocational Training Co., Jordan.*

**4 / 2001 ~ 9 / 2005, Chiba University,**

**Chiba, Japan**

*Ph.D. student, Strength and fracture mechanics of notched bars.*

**9 / 2000 ~ 3 / 2001, Chiba University,**

**Chiba, Japan**

*Researcher, Strength and fracture mechanics of notched bars.*

**4 / 2000 ~ 9 / 2000, Chiba University,**

**Chiba, Japan**

*Research student, Japanese Language Intensive course*

**12 / 1996 ~ 3 / 2000, Vocational Training Co.,**

**Amman, Jordan**

*Training Director, Vocational Training Co., Jordan.*

**9/1994 ~ 9/1996, Jordan University of science & Technology,**

**Irbid, Jordan**

*Teaching Assistant.*

### Honors and Awards

- Monboshu Scholarship for International Students, Japan, 2000

### Teaching Experience

- Dynamics
- Strength of Materials.

- Engineering Mathematics
- Stress Analysis and Fracture Mechanics; (e-learning)
- Machine Design I; (e-learning)
- Machine Design II; (e-learning)
- Machine Elements Design; (e-learning)
- Theory of Machines; (e-learning)
- Engineering Numerical Methods
- Strength of Materials Lab.
- Fluid Mechanics Lab.

### **Teaching Goals**

- Complementing the existing expertise with the new technologies and novel areas.
- Having graduates with solid understanding of engineering concepts.
- Increase the graduates confidence in what they have learned and practice applying it.
- Enhance the graduate communication, conceptual thinking and reporting skills.
- Contributing in improvement the learning skills of the teaching assistants.
- Meet the social objectives of the continuing education and industrial training programs.

### **Graduation Projects Supervision**

- Feasibility Study of Using Solar Energy in Hashemite University; 2012.
- Comparison between Friction Stir Welding and Arc Welding for Aluminum.
- Strain- Concentration Factor of Circumferential Notch with Flat Bottom in Cylindrical Bars under Static Tension.
- Strain- Concentration Factor of Circumferential Notch with Flat Bottom in Cylindrical Bars under Static Tension.
- Strain- Concentration Factor of Double Circumferential U- Notches with in Cylindrical Bars under Static Tension.

### **Graduate Studies Advising**

**Committee Member:**

- Nabil A. AlShre', M.Sc., Jordan University of science & Technology, 2009.
- Omar Alghzawi, M.Sc., Jordan University of science & Technology, 2007.

### **Industrial Experience**

**1995 – 1996**      *Anajem Al-Sate' Co.*

- Responsible for HVAC systems maintenance.

## **Research Interests**

- Strength and fracture mechanics of notched bars.
- Stress-concentration factor, conventional and new strain-concentration factors under different types of loading, (static tension, bending, combined loading, dynamic loading).
- Elasticity.
- Plasticity.
- Linear and Non-linear dynamics
- Swirl flow
- Water, Energy, and Environment.

## **Research Goals**

- Attracting external funds in order to activate practical and industrial oriented researches.
- Serving the local industries with innovative solutions through collaborative research programs.
- Developing multidisciplinary (Mechanical - Electrical - Fluid – Solid- Thermal- Energy) system-levelled researches.

## **Ongoing Research Projects**

- Distributed Knowledge-Based Energy Saving Networks; DISKNET; *FP7*-Project No. 294933.
- Strain - Concentration Factor of Notched Bars under Combined Loading of Pure Bending and Static Tension.

## **Completed Research Projects**

- “Strain - Concentration Factor of Circumferentially V-Notched Cylindrical Bars under Static Tension”, The Hashemite University, JD600, Aug. 30, 2006 – Feb. 4, 2007.

## **Professional Members**

- Member of Jordan Engineering Association

## **Academic Service**

- 2006/2007 Member of the Graduation Projects Committee; Mechanical Engineering Department.
- 2006/2007 Member of the Examination Committee; Mechanical Engineering Department.
- 2007/2008 Member of the NDT Consultation Committee; Faculty of Engineering.
- 2008/2009 Head of the ABET Committee; Mechanical Engineering Department.
- 2008/2009 Member of the ABET Committee; Faculty of Engineering.
- 2008/2009 Member of the Laboratories Committee; Mechanical Engineering Department.

- 2009/2010 Member of the Graduate Studies Committee; Mechanical Engineering Department.
- 2009/2010 Head the Strategic Planning Committee; Mechanical Engineering Department.
- 2009/2010 Member the Strategic Planning Committee; Faculty of Engineering.
- 2009/2010 Member of Industrial Advisory Committee; Mechanical Engineering Department.
- 2010/2011 Head of the Examination Committee; Mechanical Engineering Department.
- 2010/2011 Member of the Academic Programs Committee; Mechanical Engineering Department.
- 2011/2012 Head of the Examination Committee; Mechanical Engineering Department.
- 2011/2012 Member of the Class schedule Committee; Mechanical Engineering Department.
- 2011/2012 Member of the Academic Curriculum Committee; Faculty of Engineering.
- 2011/2012 Head of the Graduation Projects Support Committee; Faculty of Engineering.
- 2011/2011 Member of the Examination Committee; Faculty of Engineering.
- 2011/2011 Member of the Faculty Scientific day Committee; Faculty of Engineering.
- 2011/2012 Member of the Graduate Studies Committee; Faculty of Engineering.
- 2011/2012 Member of the Class schedule Committee; Faculty of Engineering.
- 2012/2013 Head of the Graduate Studies Committee; Mechanical Engineering Department.
- 2012/2013 Head of the Examination Committee; Mechanical Engineering Department.
- 2012/2013 Head of the Academic Curriculum Committee; Mechanical Engineering Department.
- 2012/2013 Member of the Graduate Studies & Scientific Research Committee; Faculty of Engineering.
- 2012/2013 Head of the Academic Curriculum Committee; Faculty of Engineering.
- 2012/2013 Member of the Class schedule Committee; Faculty of Engineering.
- 2012/2013 Member of the Conferences & Scientific Day Committee; Faculty of Engineering.

### **Specialized Workshops & Short Courses Attended**

- 2006 Teaching and Assessment in Higher Education, The Hashemite University, Jordan.
- 2000 Intensive Japanese Language Course, International Student Center, Chiba University, Japan
- 1998 Course in Auto cad 14, University of Jordan, Amman, Jordan.
- 1998 Programming and Operating of CNC Machines, Vocational Training Co., Jordan.
- 1998 Workshop about Improvement of a Small Projects, Vocational Training Co., Jordan.
- 1997 Workshop in CNC Machines, Vocational Training Co., Jordan.
- 1997 Course in Hydro-pneumatic Systems, Vocational Training Co., Jordan.
- 1997 Course in Training Manager Duties, Vocational Training Co., Jordan.
- 1997 Course in Teaching and Training Techniques, Vocational Training Co., Jordan.

### **Conferences Organized**

- Member of the organization committee of the “3rd International Conference on Thermal Engineering: Theory and Applications,” Amman, Jordan, May 21 – 23, 2007.

- Session Co-chair of the “International Conference and Exhibition on Green Energy & Sustainability for Arid Regions & Mediterranean Countries (ICEGES 2009)”, Royal Hotel Amman, Jordan November, 10-12, 2009.

### Reviewer

- Construction & Building Materials.
- Jordan Journal of Mechanical and Industrial Engineering.

### Publications: Books

- 1- **Hitham Tlilan**,” Strain - Concentration Factor” ; LAP Lambert Academic Publishing ISBN 978-3-8465-1500-6, 2011.

### Publications: Journal Papers

- 1- **Tlilan H.M.**, “Effect of Poisson’s ratio on the elastic strain – concentration factor of notched bars under static tension under pure bending”, *Jordan Journal of Mechanical and Industrial Engineering*, Vol. 4, No.6, 2010, pp. 757-778.
- 2- **Tlilan H.M**, Jawarneh A.M, Al-Shyyab A.S,” Strain-concentration factor of cylindrical bars with double circumferential U-notches under static tension”, *Jordan Journal of Mechanical and Industrial Engineering*, vol. 3, no. 2, 2009, pp. 97-104
- 3- Al-shyyab A, Alwidyan K., Jawarneh A.M, **Tlilan H**, “Non-linear Dynamic Behaviour of Compound Planetary Gear Trains: Model Formulation and Semi-Analytical Solution”, Proc. IMechE, Part K: *Journal of Multi-body Dynamics*, vol. 223, no.3, 2009, pp. 199-210.
- 4- Jawarneh A.M., Al-Shyyab A, **Tlilan H**, Ababneh A, “Enhancement of a cylindrical separator efficiency by using double vortex generators”, *Energy Conversion and Management*, vol. 50, issue 6, 2009, pp.1625-1633.
- 5- Ababneh A.K., Garris C.A., Jawarneh A.M, **Tlilan H.**,” Investigation of the Mach number effects on fluid-to fluid interaction in an unsteady ejector with a radial-flow diffuser”, *Jordan Journal of Mechanical and Industrial Engineering*, vol. 3, no. 2, 2009, pp. 131-140.
- 6- Ababneh A.K, Jawarneh A.M, **Tlilan H.**, Ababneh M.K, “The Effects of the Secondary Fluid Temperature on the Energy Transfer in an Unsteady Ejector with a Radial-Flow Diffuser”, *Heat and Mass Transfer*, vol. 46, no.1, 2009, pp. 95-105.
- 7- **Tlilan H. M.**, Al-Shyyab A.S, Jawarneh A.M, Ababneh A.K," Strain-Concentration Factor of Circumferentially V-Notched Cylindrical Bars under Static Tension", *Journal of Mechanics*, vol. 24, no.4, 2008, pp. 419-427.

- 8- Jawarneh A.M., **Tlilan H.**, Al-Shyyab A., Ababneh A., " Strongly Swirling Flows in a Cylindrical Separator ," *Minerals Engineering*, vol. **21**, issue 5, 2008, pp. 366-372.
- 9- **Hitham M. Tlilan**, Ahmad S. Al-Shyyab, Tariq Darabseh, Majima Tamotsu," Strain-Concentration Factor of Notched Cylindrical Austenitic stainless Steel Bar with Double Slant Circumferential U- Notches Under Static Tension". *Jordan Journal of Mechanical and Industrial Engineering*, **1**(2), 105-111, 2007.
- 10- **Hitham M. Tlilan**, N. Sakai and T. Majima, "Effect of notch depth on strain-concentration factor of rectangular bars with a single-edge notch under pure bending", *International Journal of Solids and Structures*, **43**, 459–474, 2006.
- 11- **Hitham M. Tlilan**, Sugawara Yousuke, Majima Tamotsu, "Effect of notch depth on strain-concentration factor of notched cylindrical bars under static tension", *European Journal of Mechanics A / Solids*, **24** (3), 406-416, 2005.
- 12- **Hitham . M. Tlilan**, N. Sakai and T. Majima, "Strain-concentration factor of rectangular bars with a single-edge notch under pure bending". (In Japanese), *Journal of the Society of Materials Science*, **54** (7), 2005.

### Publication: Conference Papers

- 1- **Hitham M. Tlilan**, "Elastic Strain-Concentration Factor of Notched Bars under Combined Loading of Static Tension and Pure Bending" **World Academy of Science, Engineering and Technology**, 64, 2012, Paris, France.
- 2- **Hitham M. Tlilan**, "Elastic Strain-Concentration Factor of Cylindrical Bars with Circumferential Flat- Bottom Groove under Static Tension" **World Academy of Science, Engineering and Technology**, 76, 2011, Venice, Italy.
- 3- **Tlilan H.M**, Al-shyyab A.S, and Jawarneh A.M., " Interference Effect on Strain-Concentration Factor of Cylindrical Bars with Double Circumferential Unotches under Static Tension", *6th International Conference on Mechanics of Time-Dependent Materials*, Hall, R.B., Lu, H. and Qi, H. J., eds., Mar 30 - Apr 4, 2008, Monterey, CA.
- 4- **Hitham Mahmmod Tlilan**, Naoki Sakai, Majima Tamotsu, "Strain-concentration factor of a single-edge notch under pure bending". (In Japanese) *Yamanashi District Conference*, No. 040-4, Japan, 2004
- 5- **Hitham M. Tlilan**, S. Yousuke, T. Majima, "Strain-concentration factor of shallow circumferential notches". *JSME conference* **53** No. 43-1, Japan, 2004.

### Computer Experience

<b>Programming:</b>	Basic, Fortran, C++, Matlab, and Mathematica
<b>Operating System</b>	DOS, WINDOWS and Netscape (Internet), Apple Mac.

**World Processors**

WordPerfect and Word

**Technical Packages**

AutoCAD, Marc Draw and Excel, MSc Marc, Nastran, Patran,  
Dytran.

## Languages

Arabic

English

Japanese

## Academic References

- **Mousa S. Mohsen**

Professor

Mechanical Engineering

Department of Mechanical Engineering

Faculty of Engineering

The Hashemite University

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Now At Faculty of Engineering

American University,

Ras Al Khaimah, UAE

[msmohsen@hu.edu.jo](mailto:msmohsen@hu.edu.jo)

- **Majima Tamotsu**

Professor

Mechanical Engineering

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Japan

[majima@faculty.chiba-u.jp](mailto:majima@faculty.chiba-u.jp)

- **Rami Hikmat Fouad ALHadeethi**

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