

## Curriculum Vitae

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Education	1													
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### Education:

- 2012 – 2016     ***Doctor of Philosophy***  
University of Toronto, Canada  
Mechanical & Industrial Engineering Department  
*PhD Topic:* “Development and Modeling of Functionally Graded Porous Structures and Composites”
- 2002 – 2004     ***Master of Science in Mechanical Engineering***  
Sultan Qaboos University, Oman  
Department of Mechanical and Industrial Engineering  
*M.Sc. Thesis:* “Development of a Finite Element Program for Thick Anisotropic Laminated Composite Plates”
- 1997 – 2002     ***Bachelor of Engineering in Mechanical Engineering***  
Sultan Qaboos University, Oman  
Department of Mechanical and Industrial Engineering  
*Final Year Project:* “Atmospheric Corrosion”

### Professional Experience:

**September 2016 – Present:**

***Academic and Administrative Experience***

Assistant Professor  
Department of Mechanical and Industrial Engineering  
Sultan Qaboos University

Responsibilities include:

- Teaching of Mechanical and general engineering courses at all levels with all academic related duties, i.e., material preparation, lecturing, exam papers preparation, grading, .. etc.
- Active researcher on both basic and applied research topics.
- Final year project (FYP) coordinator of the department. The duties include listing the eligible student for FYP, coordinating with the faculty for project proposals, distribution of students to groups and then to the projects, arranging seminars in different related topics like report writing and presentation skills, preparation and follow up of exam schedules for the reports and presentations, grades preparation and assignment.
- College Chair for the Information and Communication Technology Committee. This committee is responsible for managing the college IT resources including both hardware and software.
- Advisor for the Society of Mechanical Engineers (SME) at the department. The responsibilities include the managements of students' activities like exhibitions, seminars, gatherings, workshops, and social and sports events. The supervision include both the administrative and technical parts.
- Any other administrative duties related to the department, college, and the University.

### ***Research and Practical Experience***

- Member of Applied Mechanics and Advanced Materials Research Group. The group focuses on several basic and applied research topics such as;
  - Solid Expandable Technology (SET). This technology is a main concern to oil industry.
  - Composite and smart materials.
  - Polymeric materials (Synthesis, characterization, and analysis).
  - Finite element method and design.
  - Porous structures.
  - Molecular dynamics simulations.

And many other technical consultancies to local industry of Oman like designing and analyzing several systems using finite element method in support with analytical approach.

- Joining other researchers from different departments and colleges at the university and outside the university in multi-disciplinary research projects.
- Supporting final year students in their graduation projects (Doctoral, Master and Bachelor degrees).

- Supervising/co-supervising students for Doctoral and Master thesis.
- Supervised PhD thesis:
  - Molecular Dynamic Simulation of Polymeric Materials and Function Polymers, (co-supervised), By: Isra Al Muscati, (current)
  - Optimization of Processing Framework of High-Performance Eco-Sustainable Date Palm Plastic Composites (DPPCs), (co-supervised), by Mahmoud M.A. Nassar, (current)
- Supervised M.Sc. Thesis:
  - Assessment of Pipelines with Single & Multiple Corrosion Defects – Code and Numerical Solution, (Supervisor), by Mohammed Al-Ghafri, 2017

**November 2009 – August 2012:**

***Academic and Administrative Experience***

Lecturer

Department of Mechanical and Industrial Engineering  
Sultan Qaboos University

Responsibilities include:

- Lecturer for Mechanical and general engineering courses at all levels with all academic related duties, i.e., material preparation, lecturing, exam papers preparation, .. etc.
- Being an active researcher on both basic and applied research topics.
- Any other administrative duties related to the department, college, and the University.

***Research and Practical Experience***

- Member of Applied Mechanics and Advanced Materials Research Group. The group focuses on several basic and applied research topics such as;
  - Solid Expandable Technology (SET). This technology is a main concern to oil industry.
  - Composite materials.
  - Nano Technology applications (Just starting).

And many other technical consultancies to local industry of Oman like designing and analyzing several systems using finite element method in support with analytical approach.

- Joining other researchers from different departments at and outside the university in multi-specialization research projects.

- Supporting final year students in their graduation projects (Master and Bachelor degrees).

**September 2006 – October 2009:**

***Academic and Administrative Experience***

Department of Engineering  
Section of Mechanical and Industrial Engineering  
Almusanaa College of Technology

Responsibilities include:

- Acting Head of Section, Mechanical & Industrial Engineering
- Lecturer for,
  - Basic engineering science courses (Physics, Engineering Graphics, Probability and Statistics for Engineers).
  - Mechanical engineering courses (Applied Mechanics, Engineering Workshop, and Mechanics of Materials).
- Quality Assurance Coordinator;
  - Collection and preparation of Standard Operating Procedures (SOP) reports for engineering laboratories and workshops.
  - Collection and preparation of Quality Sub-Manuals (QSM).
  - Leading several investigation committees in regard to problems related to the academic activities.

***Research and Practical Experience***

Researcher,  
Applied Mechanics and Advanced Materials Research Group  
Department of Mechanical and Industrial Engineering  
Sultan Qaboos University (SQU)

Responsibilities include:

- Utilizing modern engineering software for solving real-life problems.
- Interaction (through SQU) with local Oman industry for investigating and solving technical issues.
- Supporting final year students in their graduation projects (Master and Bachelor degrees).

**July 2002 – August 2006:**

***Research and Teaching Experience***

Research Assistant  
Applied Mechanics and Advanced Materials Research Group  
Department of Mechanical and Industrial Engineering  
Sultan Qaboos University

Responsibilities include:

- Teaching Assistant in advance courses such as “Statics”, “Applied Finite Element Method” and “Capstone Design”.
- Helped final year students in their graduation projects (Master and Bachelor degrees).
- Developed software for stress analysis of laminated plates made of composite materials.
- Used ABAQUS/ TNO DIANA software to simulate:
  - Various aspects of tubular expansion process.
  - Buckling of drill string/casing in curved and horizontal sections of horizontal wells.
- Designed an experimental test rig for expanding tubular with the team.
- Occasional lecturing based on requests.
- Conducted many tutorial sessions for courses and software such as ALGOR, ABAQUS, MATLAB, etc.
- Helped students in the course by giving extra classes.

### ***Professional Training:***

#### **November 2018:**

Fundamentals of Technology Transfer, Oman, Muscat

#### **December 2002:**

Advanced Training on a finite element software ABAQUS  
Milano, Italy

#### **April 2002:**

Short Course on Introduction to process Engineering Suite  
Sim4me University, Simulation Science Inc.

#### **July - August 2001:**

Industrial Training,  
Otto von Guericke University  
The Institute of Measurement Technique and Reciprocating Machines  
Magdeburg, Germany

#### **May 2001:**

Industrial Training  
Al-Hassan Switch Gear Company  
Ghala Industrial Area, Oman

#### **January - February 2000:**

Industrial Training,  
Ministry of Defense, Royal Oman Navy

## **Publications:**

### **Journal Articles**

F. Al Jahwari, A. A. W. Anwer, and H. E. Naguib, "Fabrication and microstructural characterization of functionally graded porous acrylonitrile butadiene styrene and the effect of cellular morphology on creep behavior," *Journal of Polymer Science Part B: Polymer Physics*, vol. 53, pp. 795-803, 2015.

F. A. Jahwari and H. E. Naguib, "Analysis and homogenization of functionally graded viscoelastic porous structures with a higher order plate theory and statistical based model of cellular distribution," *Applied Mathematical Modelling*, vol. 40, pp. 2190–2205, 2016.

F. Al Jahwari, Y. Huang, H. E. Naguib, and J. Lo, "Relation of impact strength to the microstructure of functionally graded porous structures of acrylonitrile butadiene styrene (ABS) foamed by thermally activated microspheres," *Polymer*, vol. 98, pp. 270-281, 2016.

F. Al Jahwari and H. E. Naguib, "Finite element creep prediction of polymeric voided composites with 3D statistical-based equivalent microstructure reconstruction," *Composites Part B: Engineering*, vol. 99, pp. 416-424, 2016.

Akhtar M, Qamar SZ, Pervez T, Al-Jahwari FK., "Performance evaluation of swelling elastomer seals", *Journal of Petroleum Science and Engineering*. vol. 165, pp127-135, 2018.

Al-Hiddabi S.A., Pervez T., Qamar S.Z., Al-Jahwari F.K., Marketz F., Al-Houqani S., Van de Velden M., "Analytical model of elastomer seal performance in oil wells", *Applied Mathematical Modelling*, v. 39, pp. 2836–2848, 2015

Meguid S. A., Al Jahwari, F., "Modeling the pullout test of nanoreinforced metallic matrices using molecular dynamics", *ACTA MECHANICA*, vol. 225(4/5), pp. 1267-1275, 2014

MD Velden, FKS Al-Jahwari, "Expansion of Tubular with Elastomers in Multilateral Wells", *The Journal of Engineering Research*, vol. 10, Iss. 1, pp. 41-49, 2013

Meguid S. A., Wernik J. M., Al Jahwari F, "Toughening mechanisms in multiphase nanocomposites", *International Journal of Mechanics and Materials in Design*, n. 2, pp. 115, 2013

Al-Jabri K. S., Al-Jahwari F., "Advanced Finite Element Modelling of Flexible End-Plate Beam-to-Column Joints in Fire", *Journal of Structural Fire Engineering*, vol. 3, n. 1, pp. 71, 2012.

Pervez T., Qamar S. Z., Al-Hiddabi S. A., Al-Jahwari F. K., Marketz F., Al-Houqani S., Velden M. V., "Tubular Expansion in Irregularly Shaped Boreholes—Computer Simulation and Field Measurement", *Petroleum Science and Technology*, n. 7, pp. 735-744, 2011.

Pervez Tasneem, Al-Zebdeh Khalid, Farooq K. Al-Jahwari, "Effect of Boundary Conditions in Laminated Composite Plates Using Higher Order Shear Deformation Theory", *Applied Composite Materials*, pp 499-514 2010.

T. Pervez, S.Z. Qamar, A.C. Seibi, F.K. Al-Jahwari, "Use of SET in cased and open holes: Comparison between aluminum and steel", *Materials & Design*, Vol. 29, Issue 4, pp 811-817, 2008.

T. Pervez, A.C. Seibi, S.A. Al-Hiddabi, F.K. Al-Jahwari<sup>1</sup>, S.Z. Qamar and F. Marketz, "Solid Tubular Expansion in Horizontal Wells", *SPE # 105704*, February 2006.

T. Pervez, A.C. Seibi, F.K. Al-Jahwari, "Analysis of Thick Orthotropic Laminated Composite Plates Based on Higher Order Shear Deformation Theory", *Composite Structures*, Volume 71, Issues 3-4, pp 414-422, December 2005.

### **Conference Proceedings Articles**

F. A. Jahwari and H. E. Naguib, "Linear Viscoelastic Modeling and Validation of Functionally Graded Heterogeneous Porous PLA Structures with a C1-Continuous Plate Theory and Novel Homogenization," presented at the *Foams*, New Jersey, USA, 2014.

F. A. Jahwari and H. E. Naguib, "An Accurate Higher Order Plate Theory for Tailoring the Properties of Functionally Graded Porous Media," presented at the 30th International Conference of the Polymer Processing Society, Cleveland, Ohio, USA, 2014.

F. A. Jahwari and H. E. Naguib, "Experimental and Numerical Analysis on the Buckling Behavior of Functionally Graded Cellular Media with Extension-Capable C1 Higher Order Plate Theory," presented at the ASME 2014 International Mechanical Engineering Congress & Exposition IMECE 2014, Montreal, Canada, 2014.

F. A. Jahwari and H. E. Naguib, "Microstructure-Property Relationship for Impact Energy Absorption of Functionally Graded Porous Structures of

Acrylonitrile Butadiene Styrene (ABS)," presented at ANTEC 2016 Society of Plastics Engineers, Indianapolis, USA, 2016

Akhtar M, Qamar SZ, Pervez T, Al-Jahwari FK., "FEM Simulation of Swelling Elastomer Seals in Downhole Applications Mechanical engineering", International Mechanical Engineering Congress, San Diego CA, 2013

Khalifa Al-Jabri, Farooq Al-Jahwari, "Finite Element Analyses of Flexible End-Plate Connections between Steel Beams and Columns at Elevated Temperatures", SiF10, Sixth International Conference Structures in Fire, June 2010

K.S. Al-Jabri, M. Ramaswamy, A. Al-Alawi, and F.K. Al-Jahwari, "Strategies for the Development of Sustainable Buildings in Sultanate of Oman", PICETE, Pravara International Conference on Emerging Trends in Engineering, December 2008

T. Pervez, K. Al-Zebdeh, F.K. Al-Jahwari, "Comparative Study Between an Efficient Higher Order Theory for Laminated Plates and Commercial Software", ICCST7, Seventh International Conference on Composite Science And Technology, Sharjah, United Arab Emirates, 2008

A. Al Alawi, M. Ramaswamy and F.K. Al-Jahwari, "A Feasibility Study to use Solar Photovoltaic Pumping system for Water Supply in one of the health centers in Sultanate of Oman", IAES2008, Industrial Applications of Energy System, April 3-4, 2008, Sohar University-Sultanate of Oman

A. Al Alawi, M. Ramaswamy and F.K. Al-Jahwari, "Analysis of O & M of R.O and S.T Plants installed in one of the Government Refereed Hospital in Sultanate of Oman", 8th Gulf Water Conference - Bahrain - March 3-6, 2008

F.K. Al-Jahwari, T. Pervez, S.Z. Qamar, S.A. Al-Hiddabi, F. Marketz, V. Ogoke, S. Al-Houqani, "Tubular Expansion in Irregularly Shaped Boreholes Using Finite Element Method", 21st Canadian Congress of Applied Mechanics, June 3-7, 2007

A. Al Alawi, M. Ramaswamy, S. Al-Sulti and F.K. Al-Jahwari, "A Feasibility Study to use solar energy based Hybrid Refrigerator for Vaccine Storage in one of the Government Referral Hospitals in Sultanate of Oman", IAES2007, Industrial Applications of Energy System, April 3-4, 2007, Sohar University-Sultanate of Oman

T. Pervez, A.C. Seibi, F.K. Al-Jahwari, "Finite Element Analysis of Thick Anisotropic Laminated Composite Plates Using Higher Order Shear



Deformation Theory”, ICCST5, Fifth International Conference on Composite Science And Technology, Sharjah, United Arab Emirates, February 1-3, 2005.

A.C. Seibi, S.K. Al-Oraimi, and F.K. Al-Jahwari, “Finite Element Modeling and Experimental Study on GRP/Concrete under Bending,” International Conf. on Composites Science & Technology (ICCST/5), American University of Sharjah, April 2005.

T. Pervez, S.Z. Qamar, A.C. Seibi and F.K. Al-Jahwari, “A Comparative Study of Using Aluminum and Steel as Liner Hangers in Well Drilling”, Second International Conference on Advances in Production and Processing of Aluminum, Manama, Kingdom of Bahrain, December 5-7, 2005.

### **Technical Reports**

T. Pervez, S.A. Al-Hiddabi, S.Z. Qamar, F.K. Al-Jahwari, “Mechanics of Solid Tubular Expansion in Irregularly Shaped Boreholes (Ovality Problem)”, Petroleum Development Oman, May, 2007

T. Pervez, S.A. Al-Hiddabi, S.Z. Qamar, F.K. Al-Jahwari, “Analytical Performance Estimation of Elastomer Sealing in Oil Wells”, Petroleum Development Oman, April, 2007

A. C. Seibi, T. Pervez, S. Al-Hiddabi, F. Al-Jahwari,” Solid Tubular Expansion in Horizontal Wells”, Petroleum Development Oman, March 01, 2004

### **Publications In-Progress**

T. Pervez, A.C. Seibi, F.K. Al-Jahwari, “Buckling of Drillstring/Casing in Curved and Horizontal Sections of Horizontal Wells” ***(Draft is ready)***

T. Pervez, F.K. Al-Jahwari, S.A. Al-Hiddabi, S.Z. Qamar, and R.A. Siddiqui, “Finite Element Analysis of an Adhesive Bonded Taper-Taper Joint for Orthotropic Laminated Composite Plate” ***(Draft is ready)***

T. Pervez, M.M.K. Khadem, F.K. Al-Jahwari, “Stacking Sequence Optimization of Laminated Composite Plates Using Higher Order Shear Deformation Theory”

T. Pervez, F.K. Al-Jahwari, “A Study of Circular Holes in Laminated Composite Plates Using Higher Order Shear Deformation Theory”

## Software Developed

LamPlate: FORTRAN finite element code (3000 lines) developed for the analysis of thick anisotropic laminated composite plates.

LamPlate: MATLAB finite element code *is being* developed for the analysis of thick anisotropic laminated composite plates.

IsoPlate: FORTRAN finite element code developed for the analysis of homogeneous isotropic plates.

## Software Development In-Progress

AnisoTruss: MATLAB finite element code will be developed for the analysis of anisotropic composite truss structures.

AnisoBeam: MATLAB finite element code will be developed for the analysis of anisotropic composite beam structures.

IsoTruss: MATLAB finite element code will be developed for the analysis of isotropic truss structures.

IsoBeam: MATLAB finite element code will be developed for the analysis of isotropic beam structures.

## Skills:

### Computer:

- Well experienced with Microsoft Windows and Office products.
- Fair experienced with Linux.
- Excellent internet user.
- Excellent programming skills (FORTRAN & MATLAB).
- Experienced and skillful user of ABAQUS, ANSYS, ALGOR, DEFORM, AutoCAD.
- Fair level of knowledge in following software:
  - LUSAS
  - SPSS
  - TNO DIANA
  - HOMER

### Language:

- Arabic: Excellent speaking, reading and writing (mother tongue).
- English: Well spoken, read and written.

## **References:**

1. Professor Tasneem Pervez  
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