

## **CURRICULUM VITAE**

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### **Executive Summary**

I completed my first degree in Mechanical Engineering followed by MSc in Solid Mechanics both at the University of Tehran with first class. I then joined Ferdowsi University of Mashhad as a lecturer in solid mechanics. In 1996 I moved to the United Kingdom to undertake a research project on “finite element modelling of local damage and material rupture” at the University of Surrey that led to the award of PhD degree in Mechanical Engineering in 2000. Since then I have worked as an academic member of staff for UK and Iranian Universities. During this period, I have contributed to several research and industrial projects.

In research I focused on aspects related to the integrity assessment of structures. Evaluating the influence of residual stress fields on the fracture resistance of structures subjected to various in-service loading conditions and developing failure predicting modelling approach to rupture conditions in adhesively bonded structures were amongst examples. The outcome has so far produced 80+ publications in accredited journals and key international conference proceedings.

As an academic member of staff, I have supervised several MSc and PhD researches, as well as numerous final year undergraduate student projects, performed in several managerial roles, chaired and delivered several undergraduate and postgraduate core solid mechanics subjects, provided industrial consultation, chaired sessions in international conferences, and have been a reviewer for international journals and conferences. Taught subjects focused on Mechanics of Materials, Mechanical Design, Fracture Mechanics, Structural Integrity, Applied Fatigue and Fracture, and Industrial Application of Finite Element Method.

### **Education Background**

**2000;** Ph.D., Mechanical Engineering, University of Surrey, UK

**1986;** M.Sc. (Distinction), Solid Mechanics and Design; University of Tehran, Iran

**1984;** B. Sc. (1<sup>st</sup> Class), Mechanical Engineering, University of Tehran, Iran

### **Employment History**

**2011-18.**, Assistant Professor, University of Birjand, Iran

**2016-18**, Senior Lecturer (Associate Professor) in Solid Mechanics, Coventry University, UK

**2014-16**, Senior Lecturer (Associate Professor) in Mech Eng, Sheffield Hallam University, UK

**2009-14**, Assistant Professor; Ferdowsi University of Mashhad / University of Birjand, Iran

**2009-11**, Visiting Research Fellow, University of Bristol, UK (2009-11)

**2005–09**, Research staff, University of Oxford / Research Associate, University of Bristol, UK

**2003-2005**, Assistant Professor; Ferdowsi University of Mashhad / University of Birjand, Iran

**2001-2003**, Postdoctoral Research Assistant; University of Bristol, UK

**2000-2001**, Assistant Professor; Ferdowsi University of Mashhad, Iran

**Pre 2000**, Lecturer, Ferdowsi University of Mashhad, Iran / TA,;RA; University of Surrey, UK

## **Recent Research and Industrial projects**

**2009-18;** Universities of Mashhad & Birjand, Iran / Sheffield Hallam & Coventry, UK  
supervised postgraduate research project students. Examples include integrity assessment of pressure vessels, welding residual stresses, interaction of residual stresses with fracture, brittle fracture, high temperature creep associated phenomena, damage characterisation of metallic materials, low velocity impact (crashworthiness) analysis of honeycomb structures, shape and structural optimization using Iso-geometric Analysis, and predicting the response of high strength steel alloys to combined impact/fatigue loading.

**2006-09,** *University of Bristol UK,*

"Multi-scale approaches to enhance material performance, residual stress & micro-structural issues", Solid Mechanics Research Group, Sponsored by *Serco Assurance*, in collaboration with the *University of Manchester, UK.*

**2008-09,** *British Energy Generation Ltd (BEG), UK,*

R5 Secondment Project: "Methods for estimating "reference stresses" and associated "elastic follow-up" factors for cracked structures subjected to combined (Service/Residual) loadings",

**2005-06,** *University of Oxford, UK,*

"Micro-plasticity and fatigue crack initiation; Implicit finite element modelling of crystal plasticity", *Department of Engineering Sciences*, sponsored by *Rolls-Royce, UK.*

**2003-05,** *Ferdowsi University of Mashhad, Iran / University of Bristol, UK,*

"Investigating the interaction of residual stresses and fracture in defected cylindrical steel pressure vessels", "The beneficial effect of Autofrettage loading of cylindrical pressure vessel steel structures in presence of cracks", "Modelling progressive crack propagation in adhesively bonded structures"

**2000-03,** *University of Bristol, UK,*

"The Effects of loading history on cleavage fracture of ferritic steels; developing a local approach to predict cleavage fracture", in collaboration with "*The Welding Institute*" (TWI), *UK*

**1996-00,** *University of Surrey, UK,*

"Finite element modelling of local damage and material rupture in adhesively bonded structures", in association with DERA, Farnborough; PhD Thesis,

**1999-00;** *University of Surrey, UK,* (concurrent with PhD programme)

Short term consultancy: 3-D finite element modelling and stress analysis of Laser Solders due to thermal shock; Performance Assessment of Safety Swivel; and load resistance of micro-satellite launcher, for *Surrey Satellite Centre; Guildford, UK*

## **Key Skills**

### **Project management and supervision, people and time management skills:**

Delivered a variety of managerial responsibilities throughout my career; supervised postgraduate research projects, managed laboratories and acted as undergraduate programme leader and director of postgraduate committee in Solid Mechanics and Applied Design for several years.

**Advanced computing skills:** Expert user of finite element tools (ABAQUS, CAE, & PATRAN); scientific programming (FORTRAN); code development (including subroutines UEL and UMAT in ABAQUS); and a range of graphics, drafting, and math based software.

**Technical skills:** Delivered several research projects requiring advanced finite element techniques for analysis & modelling, experimental & computational fracture mechanics, damage inspection & assessment, detailed stress/strain analysis, and mechanical design.

**Lecturing, presentation, and communication skills:** Taught core undergraduate and postgraduate courses; presented research output in international conferences, formal meetings and panel discussions with other institutions and industrial bodies; conducted workshops on the effect of residual stresses on the integrity of structures for academic and industrial audience; chaired conference sessions in international events; and published technical reports, lecture notes, and original research papers in accredited international journals.

**Language:** English (fluent), Farsi (mother tongue), Arabic (able to read and write)

## **Professional training**

**2016:** Extending the Professional Role in Higher Education, UK  
**2015:** Introduction to Teaching and Learning in Higher Education, UK  
**2007:** Creep-Fatigue Procedure for defect free structures (R5), Serco Assurance, UK  
**2006:** Treatment of residual stresses in structural integrity (R6), British Energy, UK  
**2006:** Using probability modelling in structural integrity assessment, FESI, UK  
**2006:** Introductory course in Scan Electron Microscopy, University of Oxford, UK  
**2006:** introductory course in Supervisory Management, Institute of Management, UK  
**1998:** intensive course: "Materials under stress", University of Surrey, UK  
**1995:** IELTS Advanced English, Centre for Applied Languages, University of Swansea, UK

## **Awards**

**2016:** Fellow of Higher Education Academy (FHEA), UK  
**2016:** Postgraduate Certificate in Learning and Teaching in Higher Education (PGCert), UK  
**2002:** Award in Supervisory Management, Institute of Management, UK  
**2000:** Distinction Award (best PhD graduate), Ministry of Science, Research & Technology, Iran

## **Achievements**

**2008:** Autobiography published in International Biographical Centre (IBC), Cambridge, UK  
**2004:** Autobiography published in Cambridge Blue Book, UK  
**2004-08:** Biography published in Who's Who in the World, USA  
**2003-04:** Biography published in Who's Who in Science and Technology, USA  
**1987-95:** Several Awards for Excellence in Teaching, Ferdowsi University of Mashhad, Iran  
**1984:** 1<sup>st</sup> Class graduate, BSc in Mechanical Engineering, University of Tehran, Iran  
**1986:** 1<sup>st</sup> Class postgraduate, MSc in Mechanical Engineering, University of Tehran, Iran

## **Teaching experience**

**2000-2016, Postgraduate Modules:** Failure of Materials and Structures, Engineering Fracture Mechanics, Advanced Mechanical Behaviour of Materials, Selected Articles in Applied Design, Industrial Applications of FEM, Applied Fatigue and Fracture Mechanics, Introduction to Advanced Plasticity  
**2000-2016, Undergraduate Modules:** Strength of Materials I, II, III (2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> year), Mechanical Engineering Design I, II (3<sup>rd</sup>, and 4<sup>th</sup> year), Dynamics of Machinery (3<sup>rd</sup> year), Mechanics of Solids and Strength of Materials (2<sup>nd</sup> year), Structural Integrity and FEM (3<sup>rd</sup> year), Engineering Structural Analysis and FEA (3<sup>rd</sup> year), Finite Element Analysis (3<sup>rd</sup> Year)

## **Recognition and Awards**

- **Awards in education:** "1<sup>st</sup> class MSc" 1986 (18.50 out of 20.00); award for "1<sup>st</sup> class BSc" 1984 (18.20 out of 20.00), Mechanical Engineering Department, **University of Tehran**, Iran,
- **Awards for teaching;** "Distinguished Lecturer in Engineering", **Ferdowsi University award**, Iran (1991, 1993 and 2004)
- **Award for research;** "Distinguished Scholar PhD graduate in Mechanical Engineering", **national award by Iran Ministry of Science, Research and Technology**, 2000
- **International recognition for research:** Personal profile in: "Marquis Who's Who in Science and Engineering", 2003 ~ 2010; Personal Biography in: "International Biographical Centre", (IBC), Cambridge (2004); Autobiography in "Cambridge Blue Book", Cambridge, (2005 ~ 2007)

## **References**

Available on request