

CURRICULUM VITAE

Manouchehr SALEHI BSc (Hons), MPhil, PhD, ISME, ISAE
Associate Professor



Contact details:

Mechanical Engineering Department,
Amirkabir University of Technology

EDUCATION

B.Sc.(Hons): Production Engineering, Leeds Metropolitan University 1984
M.Phil.: Mechanical Engineering, Leeds Metropolitan University 1987
Ph.D.: Mechanical Engineering, Lancaster University 1990

RESEARCH INTERESTS

- Application of Dynamic Relaxation (DR) to plate and shell problems.
- Design and Analysis of composite structures with elastic and viscoelastic behaviour.
- Structures made of Shape Memory Alloys and Functionally Graded Materials.
- FRP strengthening of concrete structures

- Nanomechanics and Nanostructures

MEMBERSHIP OF SOCIETIES

Member of the Iranian Society of Mechanical Engineers (**ISME**)
 Member of the Iranian Society of Aeronautical Engineers (**ISAE**)

WORK EXPERIENCE

- Sept.84-Aug.90** Undertook various part-time posts as a Teaching Assistant at Leeds Polytechnic in computing tutorial and at Lancaster University in Engineering Laboratories.
- Sept.90-Feb.91** Lecturer, Mechanical Engineering Department, Amirkabir University of Technology (Tehran Polytechnic), Tehran.
- Feb.91-Sept.02** Assistant Professor, , Mechanical Engineering Department, Amirkabir University of Technology (Tehran Polytechnic) Tehran.
- Feb.92-Nov.93** At the same time Assistant Professor at the Department of Aeronautical Engineering, Air University, Tehran. Taught Statics and Strength of Materials.
- Jun.92-Sept.93** Consultant, Iran National Industrial Manufacturing Co., Tehran.
- Sept.02-Date** Associate Professor, Mechanical Engineering Department, Amirkabir University of Technology (Tehran Polytechnic) Tehran.
 Teach the following subjects **at undergraduate level:**
 Statics, Dynamics, Strength of Materials, Mechanics of Composite Materials, Technical English Language, Strength of Materials Laboratory.
- At postgraduate level:**
 Experimental Stress Analysis, Theory of Elasticity and Continuum Mechanics.

VISITING APPOINTMENT

February 2005 – February 2006

Visiting Principal Fellow, School of Civil, Mining and Environmental Engineering, Faculty of Engineering, University of Wollongong, Wollongong, NSW, Australia

MANEGERIAL RESPONSIBILITIES

Oct.97-Jan.05 Head of departmental library
Oct.99-Oct.01 Department deputy for finance and personnel
Oct.02-Jan.05 Department deputy for academic affair
Mar.06-Date Head of department computer centre
Oct.07-Date Department deputy for finance and personnel

PROJECTS

B.Sc. Projects:

I have supervised more than thirty five undergraduate final year projects.

M.Sc. Projects:

I have supervised eleven M.Sc. projects and have three under my supervision. The titles are as follows:

1. Bending of carbon nanotube reinforced composite plate
2. Optimization of carbon nanotube reinforced composite plate
3. Micromechanical analysis of carbon nanotube reinforced composites

Ph.D. Projects:

1. Buckling and Postbuckling of Fiber-reinforced Laminated Circular and Sector Plates with Polymeric Matrix

JOURNAL PUBLICATIONS

- 1 Turvey, G.J. and Salehi, M., "DR Large Deflection Analysis of Sector Plates", *Computers and Structures*, Vol. 34, No.1, pp.101-112, (1990).
- 2 Turvey, G.J. and Salehi, M., "Computer-Generated Elasto-Plastic Design Data For Pressure Loaded Circular Plates", *Computers and Structures*, Vol. 41, No. 6, pp. 1329-1340,(1991).
- 3 Salehi, M. and Turvey, G.J., "Elastic Large Deflection Response of Annular Sector Plates- A Comparison of DR Finite-Difference, Finite-Element and Other Numerical Solutions", *Computers and Structures*, Vol. 40, No. 5, pp. 1267-1278, (1991).
- 4 Salehi, M. and Shahidi, A. G., "Large Deflection Analysis of Sector Mindlin Plates", *Computers and Structures*, Vol. 52, No. 5, pp. 987-998, (1994).
- 5 Turvey, G.J. and Salehi, M., "Circular Plates With One Diametral Stiffener- An Elastic Large Deflection Analysis", *Computers and*

- Structures*, Vol. 63, No. 4, pp. 775-783,(1997).
- 6** Turvey, G.J. and Salehi, M., "Elastic Large Deflection Analysis of Stiffened Annular Plates", *International Journal of Mechanical Sciences*, Vol. 40, No. 1, pp.51-70, (1998).
 - 7** Turvey, G.J. and Salehi, M., "Large Deflection Analysis of Eccentrically Stiffened Sector Plates", *Computers and Structures*, Vol. 68, pp. 191-205, (1998).
 - 8** Turvey, G.J. and Salehi, M., "Elasto-Plastic Response of Uniformly Loaded Sector Plates: Full-Section Yield Model Predictions and Spread of Plasticity", *Computers and Structures*, Vol. 79, pp. 2335-2348,(2001).
 - 9** Salehi, M. and Salehi-Sadeh M., "Geometrically Non-Linear Analysis of Axisymmetric Tapered Circular Plates", *International Journal of Engineering Sciences*, Vol. 14, No.3, pp. 101-118, (2003).
 - 10** Salehi, M. and Sobhani, A.R., "Elastic Linear and Nonlinear Analysis of Fiber-Reinforced Symmetrically Laminated Sector Mindlin Plates" *Composite Structures*, Vol. 65, Issue 1, pp.65-79, (2004).
 - 11** Salehi, M. and Aghaei, H. "Dynamic Relaxation large deflection analysis of circular viscoelastic plates", *Computers and Structures*, **83**, pp 1878-1890, (2005).
 - 12** Turvey, G.J. and Salehi, M., "Annular sector plates: Comparison of full-section and layer yield predictions", *Computers and Structures*, **83**, pp 2431-2441, (2005).
 - 13** Salehi, M. and Ansari, F., "Viscoelastic Buckling of Euler-Bernoulli and Timoshenko Beams Under Time Variant General Loading Condition", *Iranian Polymer Journal*, **15**(3), pp 183-193, (2006)
 - 14** Gharib, A., Salehi, M. and Fazeli, S. "Deflection control of functionally graded material beams with bonded piezoelectric sensors and actuators", Accepted for publication in: *International Journal, Materials Science and Engineering: A*, (2008)
 - 15** Salehi, M, Bakhtiari-Nejad, F and Besharati, A. "Time-Domain Analysis Of Sandwich Shell With Passive Constrained Viscoelastic Layer" Accepted for publication in: *Scientia Iranica*, (2008)
 - 16** Falahatgar, S.R., Salehi, M. and Aghdam, M.M. "Nonlinear Viscoelastic Response of Unidirectional Fibre-Reinforced Composites in Off-Axis Loading", Accepted for publication in: *International Journal of Reinforced Plastics and Composites*, (2008)
 - 17** Turvey, G.J., Salehi, M. "Elasto-Plastic Large Deflection Response of Pressure Loaded Circular Plates Stiffened by a Single Diametral Stiffener, *International Journal of Thin-Walled Structures*, **46**, pp 991-1002, (2008).

CONFERENCE PAPERS

- 1 Turvey, G.J. and Salehi, M., "Computer Generated Elasto-Plastic Design Data For Pressure Loaded Circular Plates", in *Proceedings of the Fourth International Conference on Civil and Structural Engineering Computing*, Edinburgh, U.K., Edited by B.H.V. Topping, Vol. 2, pp. 89-102, (1989).
- 2 Turvey, G.J. and Salehi, M., "Diametrically Stiffened Circular Plates- An Elastic Large Deflection Analysis", in *Proceedings of the Fifth International Conference on Civil and Structural Engineering Computing*, Edited by B.H.V. Topping, Vol. 2, pp. 151-158, (1993).
- 3 Salehi, M and Shahidi, A.G., "Elastic Response of Moderately Thick Sector Plates", *Proceedings of the Fifth International Conference on Civil and Structural Engineering Computing*, Edited by B.H.V. Topping, Vol. 2, pp. 159-169, (1993).
- 4 Salehi, M. and Shahidi, A.G., "Transverse Shear Deformability of Sector Plates-New Results", *Proceedings of the 1994 ASME Engineering Systems Design and Analysis (ESDA) Conference* in London, PD Vol. 64-8.3, pp. 545-552, 4-7 July (1994).
- 5 Turvey, G.J. and Salehi, M. "Large Deflection Analysis of Eccentrically Stiffened Sector Plates", *Developments in Computational Techniques for Civil Engineering*, Civil-Comp Press, Edinburgh, U.K., pp. 243-253, (1995).
- 6 Turvey, G.J. and Salehi, M., "Full-Section Yield Analysis of Uniformly Loaded Sector Plates", *ANS Symposium, Trends in Structural Mechanics, Theory, Education and Practice*, University of Waterloo, Canada, pp. 289-298, 10th-12th July (1997).
- 7 Salehi, M., Shakeri, M. and Khorsandi, A., "Small Deflection Analysis of Fiber-Reinforced Laminated Sector Mindlin Plates", *Proceedings of the Fourth International Conference On Computational Structures Technology, Advances in Computational Structural Mechanics*, Civil-Comp Press, Edinburgh, U.K., Edited by B.H.V. Topping, pp. 199-208, 18th-20th August, (1998).
- 8 Turvey, G.J. and Salehi, M., "Elasto-Plastic Response of Uniformly Loaded Sector Plates: Full-Section Yield Model Predictions and Spread of Plasticity", *Computing Developments in Civil and Structural Engineering Conference*, Edited by B. Kumar and B.H.V. Topping, pp. 157-169, (1999).
- 9 Salehi, M. and Sobhani, A.R., "Initial Flexural Failure Prediction of Fiber-Reinforced Laminated Sector Mindlin Plates", in *Proceedings of the Sixth International Conference on Computational Structures Technology*, B.H.V. Topping and Z. Bittnar, (Editors), Civil-Comp Press, Stirling, United Kingdom, Paper 78, 2002.
- 10 Turvey, G.J. and Salehi, M., "Annular Sector Plates: Comparison of Full-Section and Layer Yield Predictions", in *Proceedings of the Ninth International Conference on Civil and Structural Engineering Computing*, B.H.V. Topping, (Editor), Civil-Comp Press, Stirling,

- United Kingdom, Paper 35, 2003.
- 11** Salehi, M. and Tayefeh, M., "Micro as Required for Macromechanics of Circular, Annular and Sector Plates", in *Proceedings of the Ninth International Conference on Civil and Structural Engineering Computing*, B.H.V. Topping, (Editor), Civil-Comp Press, Stirling, United Kingdom, Paper 33, 2003.
 - 12** Salehi, M. and Tayefeh, M., "Non-Linear Finite Element Analysis of Functionally Graded Material Sector Plates", in *Proceedings of the Ninth International Conference on Civil and Structural Engineering Computing*, B.H.V. Topping, (Editor), Civil-Comp Press, Stirling, United Kingdom, Paper 32, 2003.
 - 13** Salehi, M. and Safi-Djahanshahi, A., "Dynamic Relaxation Buckling Analysis of Viscoelastic plates", in *Proceedings of the Seventh International Conference on Computational Structures Technology*, B.H.V. Topping and C.A. Mota Soares, (Editors), Civil-Comp Press, Stirling, United Kingdom, Paper 256, 2004.
 - 14** Besharati, A., Bakhtiari-Nejad, F. and Salehi, M. "Investigation of vibration and non-active dampers in three layers cylindrical shells under dynamic excitations" 8th International and 12th Annual Iranian Mechanical Engineering Society Conference, University of Gilan, (2004) Rasht, Iran.

15	Sazegar, A, Salehi, M and Lyaghat, A, "Numerical solution of thick cylinder subject to internal blast loading using Finit Difference and Comparison with Finite Element Method (LS-Dyna)" 9 th International and 13 th Annual Iranian Mechanical Engineering Society Conference, Isfahan University of Technology, (2005), Isfahan, Iran.
16	Besharati, A., Bakhtiari-Nejad, F. and Salehi, M. "Determination of dynamical parameters of viscoelastic material by analysing experimental frequency response data" 9 th International and 13 th Annual Iranian Mechanical Engineering Society Conference, Isfahan University of Technology, (2005), Isfahan, Iran.
17	Salehi, M and Falahatgar, SR, "Deflection measurement and numerical analysis of metallic and Fibre-reinforced laminated plates, Australian Structural Engineering Conference, Newcastle, Australia, Paper No. 15, (2005)
18	Salehi, M, Aghdam, M.M. and, Falahatgar, S.R. "Simplified unit cell method for micromechanical studies of viscoelastic properties of unidirectional fibre-reinforced composites", in <i>Proceedings of the Eighth International Conference on Computational Structures Technology</i> , B.H.V. Topping, G Montero and R. Montenegro, (Editors), Civil-Comp Press, Stirling, United Kingdom, Paper No. 261, 2006.
19	Salehi, M. and Falahatgar, S.R. "Creep response of nonlinear viscoelastic fibre-reinforced composites using micromechanical approach", in <i>Proceedings of the 2nd International Conference on Recent Advances in Composite Materials</i> , February 20-23 2007, Institute of Technology, Banaras Hindu University, Department of Mechanical Engineering, Varanasi – 221 005, INDIA.

20	Fazeli, S., Gharib, A. and Salehi, M. "Thermomechanical analysis of smart functionally graded rectangular plates using GDO method", in Proceedings of the 2 nd International Conference on Recent Advances in Composite Materials, February 20-23 2007, Institute of Technology, Banaras Hindu University, Department of Mechanical Engineering, Varanasi – 221 005, INDIA.
21	Gharib, A., Fazeli, S. and Salehi, M. "Deflection control of functionally graded material beams with bonded piezoelectric sensors and actuators", in Proceedings of the 2 nd International Conference on Recent Advances in Composite Materials, February 20-23 2007, Institute of Technology, Banaras Hindu University, Department of Mechanical Engineering, Varanasi – 221 005, INDIA.
22	Bafekrpour, E., Salehi, M., Khanjani, M. and Abdoulahpur, A. "Tensile and shear strength of spot weld and laser weld", in Proceedings of the 8 th Iranian National Conference on Welding and Inspection, 1 – 3 May 2007, Tehran, Iran Welding and NDT Society (in Persian).
23	Bafekrpour, E., Salehi, M. and Khanjani, M. "Numerical modeling of laser welding", in Proceedings of the 8 th Iranian National Conference on Welding and Inspection, 1 – 3 May 2007, Tehran, Iran Welding and NDT Society (in Persian).
24	Bavi, O. and Salehi, M. "Analysis of stress wave propagation due to impact on nanocomposite plates", In: Proceedings of the 15 th Annual (International) Conference on Mechanical Engineering, 15 – 17 May 2007, Mechanical Engineering Department, Amirkabir University of Technology, Tehran, I.R. Iran (in Persian).
25	Salehi, M. and Hadi, M.S.N., "Continuous unidirectional carbon fibre-reinforced concrete beam", in <i>Proceedings of the Eleventh International Conference on Civil, Structural and Environmental Engineering Computing</i> , B.H.V. Topping, (Editor), Civil-Comp Press, Stirling, United Kingdom, Paper 168, 2007.
26	Bafekrpour, E., Salehi, M. "Continuum modeling of nanocomposites with various carbon nanotube types using F.E.M.", 7 th International Conference of Iranian Aerospace Society, February 19-21 2008, Sharif University of Technology, Tehran, Iran
27	Yazdchi, K., Salehi, M. and Shokrieh, M.M. "Effect of wall thickness on the mechanical properties of single-walled carbon nanotubes", 7 th International Conference of Iranian Aerospace Society, February 19-21 2008, Sharif University of Technology, Tehran, Iran
28	Yazdchi, K., Salehi, M. and Shokrieh, M.M. "Mechanical properties of single-walled carbon nanotubes", 7 th International Conference of Iranian Aerospace Society, February 19-21 2008, Sharif University of Technology, Tehran, Iran
29	Yazdchi, K., Salehi, M. and Shokrieh, M.M. "Nondimensional analysis of interfacial stresses of wavy CNT/polymer composites using a new RVE", 7 th International Conference of Iranian Aerospace Society, February 19-21 2008, Sharif University of Technology, Tehran, Iran
30	Yazdchi, K., Salehi, M. and Shokrieh, M.M. "Effect of nonbonded

	interactions on the mechanical properties of single-walled carbon nanotubes" In: Proceedings of the 16 th Annual (International) Conference on Mechanical Engineering, 13 – 15 May 2008, Mechanical Engineering Department, Shahid Bahonar University of Kerman, Tehran, I.R. Iran.
31	Yazdchi, K., Salehi, M. and Shokrieh, M.M. "Analytical and numerical techniques to predict wavy carbon nanotubes properties" In: Proceedings of the 16 th Annual (International) Conference on Mechanical Engineering, 13 – 15 May 2008, Mechanical Engineering Department, Shahid Bahonar University of Kerman, Tehran, I.R. Iran.
32	Yazdchi, K., Salehi, M. and Shokrieh, M.M. "Fiber pull-out modeling of wavy CNT/Polymer composites" In: Proceedings of the 2 nd International Conference on MEMS and Nanotechnology, ICMN 08, 13-15 May 2008, Kuala Lumpur, Malaysia.
33	Yazdchi, K., Salehi, M. and Shokrieh, M.M. "Influence of Van Der Waals interaction on the mechanical properties of SWCNTs with introducing effective wall thickness" In: Proceedings of the 2 nd International Conference on MEMS and Nanotechnology, ICMN 08, 13-15 May 2008, Kuala Lumpur, Malaysia.
34	Bafekrpour, E., Salehi, M. "Analysis of microstructural parameters in the mechanical properties of polymer nanocomposites" In: Proceedings of the 15 th International Conference on Mechanics of Composite Materials, 26 – 30 May, 2008, Riga, Latvia.
35	Shirani, M Salehi, M. Sadighi, M. "Elastoviscoelastic-viscoplastic behaviour of a polypropylene plate: computational modeling and experimental approach", In: Proceedings of the 15 th International Conference on Mechanics of Composite Materials, 26 – 30 May, 2008, Riga, Latvia.
36	Yazdchi, K., Salehi, M. and Shokrieh, M.M. " Analytical and numerical techniques to predict the interfacial stresses of wavy carbon nanotube/polymer composites", In: Proceedings of the 15 th International Conference on Mechanics of Composite Materials, 26 – 30 May, 2008, Riga, Latvia.
37	Shirani, M Salehi, M. Sadighi, M. "Predicting the properties of a reinforced thermoplastic composite from a representative volume element", In: Proceedings of the 15 th International Conference on Mechanics of Composite Materials, 26 – 30 May, 2008, Riga, Latvia

SEMINARS

- Dynamic Relaxation Method, Islamic Azad University, Tehran, Iran, Summer, 2001
- Fibre-reinforced laminated plates and Dynamic Relaxation Method, School of Civil, Mining and Environmental Engineering, Faculty of Engineering, University of Wollongong, Australia, November 2005.

VOLUNTARY CONTRIBUTIONS

Reviewer for the following national and international journals and conferences:

- International Journal of Computational and Applied Mathematics, Elsevier publication
- International Journal of Solids and Structures, Elsevier publication
- International Journal of Engineering Sciences, Iran University of Science and Industry publication, Iran
- Amirkabir Research Journal, Amirkabir University of Technology publication, Iran
- Iranian Society of Mechanical Engineering Conferences
- WSEAS (The World Scientific and Engineering Academy and Society) Conferences