

**In the name of Allah**



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**Born: 01 Dec1973, Naieen, Iran**

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## **EDUCATION**

**1991-95 (B.Sc.):** Mechanical Engineering Department, Isfahan University of Technology (IUT), Esfahan, Iran, Title of Dissertation: "Dynamical Design of a 6 DOFs Prismatic Industrial Robot".

**1995-97 (M.Sc.):** Mechanical Engineering Department, IUT, Esfahan, Iran  
The title of Dissertation: "Mathematical Model of Elastic Stands for Determination of Bending Actuators Set-Points to Control Crown and Flatness in Hot Rolling Of Strip"

**1997-2002 (Ph.D.):** Metal Forming, IUT, Esfahan, Iran  
Title of Dissertation: "Theoretical and Experimental Investigations into the Ring-Rolling Process" (9 months as the visiting Scholar research at department of mechanical engineering, UBC, Vancouver, Canada)

## **EMPLOYMENT HISTORY AND ADMINISTRATION WORKS**

**2002-present** Academic staff, Mech. Eng. Dept. Isfahan University of Technology.

**2002-2006:** Director Manager; IUT Exceptional Talents Development Office.

**2003-present** Member of chief research council; Sadid Pipe and Equipment Co.

**1995-present** Member of chief research council; Mobarez Co., Isfahan, Iran

**2004-present:** Research consultant; Isfahan Science & Technology Town (ISTT).

**2008-present:** Head of solid mechanics branch, Mech. Eng. Dept. Isfahan University of Technology

## **COURSES TAUGHT**

### **Undergraduate Courses:**

Strength of Material  
Hydraulics and Pneumatics  
Engineering Plasticity  
Welding Technology  
Machine design

### **Graduate Courses:**

Applied Mathematics  
Die Design  
Fracture Mechanics  
Metal forming  
Numerical methods in solid mechanics

## **AWARDS**

### *Academic Awards*

- *First rank graduated student, B.Sc. IUT. Mech Eng. Dept. 1995*
- *First rank graduated student, M.Sc. IUT. Mech Eng. Dept. 1999*
- *The award of the president of the Islamic republic of Iran for the prominent national university students, 2002*

### *Research Awards*

- *Iranian Society of mechanical Engineers ISME award for the best Ph.D. dissertation, 2003*
- *3<sup>rd</sup> place of middle size RoboCup league (7<sup>th</sup> international competitions Padua/Italy, July 2003)*
- *3<sup>rd</sup> place of small size RoboCup league (International competitions Paderborn/Germany, March 2003)*
- *2<sup>nd</sup> place of middle size RoboCup league (International competitions Paderborn/Germany, March 2004)*
- *Award for the both fist and second rank papers on the 1<sup>st</sup> Iranian pipe & pipeline conference (Section materials and methods of pipe manufacturing) 2007*
- *One of the 1<sup>st</sup> six places of the first national RC boat competition, Azadi complex stadium, 7-10 Oct. 2008.*

## **PATENTS**

1. *Parallel Back Pressure Hydraulic Control Valve, (PBPHCV). (8 October 2000)*
2. *Anti-earthquake safety bed with collapsing ceiling, safety shade and brake. (8 April 2000)*
3. *Lifter for moving heavy loads upstairs with equilibrator spring and damper. (20 December 2005)*
4. *Quick disassembly and reassembly Anti-earthquake safety bed with an enforcing mechanism for horizontal collapsing of the ceiling, automatic safety shade drop mechanism and ceiling stop locker. (20 December 2005)*
5. *Mechanical leakage measuring and recording device for hydraulic actuators on dirty areas (15 April 2007)*

## **PROJECTS**

### ***Iran National Steel Companies:***

- *Modifications into the coiling mechanism of product in skin-pass rolling. (With Dr. M Salimi) 1996*
- *Evaluation of the trend of technology in hot and cold rolling workshops. (With Dr. M Salimi) 1999*
- *Investigations onto fracture mechanisms of the pinch-roll covers (With Dr. Nori Khorasani) 2007*
- *Evolution of the vibration mechanisms on hot rolling stands while calibration and rolling. 2008*

### ***Iran International Systems Engineering and Automation Company (IRISA):***

- *Development of mathematical models for predicting crown and flatness in a four high hot rolling mills (Mobarakeh steel Complex). (With Dr. M Salimi) 1998*

### ***Mobarez Co.***

- *Design and manufacturing of large centrifugal fans for street sweepers, up to 200 hp. 1995*
- *Design and executing hydraulics and pneumatics systems. (Invent the PBPHCV). 1999*
- *Design and manufacturing of a city mini truck. 1996*
- *Investigation on fracture on train bogies. 2003*
- *Design of a hydrostatic municipal 4 tons mini truck. 2004-2007*

### ***Iran Spiral Co.***

*Investigations into fracture mechanism of spiral-welded pipes in oil and gas industries. 1999*

### ***IUT RoboCp center***

### ***Sadid Pipe and Equipment Co***

- *Increasing fracture resistance of the spirally welded oil and gas pipes. 2003-2005*
- *Optimization of the manufacturing process of the spirally welded oil and gas pipes. 2005-2007*

### ***Isfahan University of Technology:***

- *Design of a 6 DOFs prismatic industrial Robot. (With Dr. H. Mousavi) 1995*
- *Design and manufacture of an experimental ring rolling mill. (With Dr. M. Salimi) 1999-2001*
- *Establishing the hydraulics and pneumatics lab. (With Mr. B. Dibaenia) 2003*
- *Establishing the metal parts manufacturing group. (With Dr. M. Salimi) 2004*
- *Design and implement pneumatic system of RoboCup mobile robots. (With Dr. A. R. Fadaiee) 2001*
- *Design and manufacturing RC Boat (with Dr. A. Sedaghat) 2007-2008.*

## **PUBLICATIONS**

### **Books**

1. *A key to some of the software packages for analytical mechanics*, M. R. Forouzan and M. Kadkhodaiee, *Tosee amouzessh polications*, 2005
2. *A key to some of the software packages for computer-aided engineering*, M. R. Forouzan and M. Kadkhodaiee, *Tosee amouzessh polications*, 2006

### **International Journals**

1. M. Salimi and M. R. Forouzan, "Determination of Bending Actuators Set-points to Control Crown and Flatness in Hot Rolling of Strip" *Journal of Materials Processing Technology*, 125-126 (2002) pp. 670-677.
2. M. R. Forouzan, M. Salimi, M. S. Gadala, A. Aljawi, "Guide Roll Simulation in FE Analysis of Ring Rolling, *Journal of Materials Processing Technology* Volume 142 Issue 1, 10 November 2003, Pages 213-223
3. M. R. Forouzan, M. Salimi, M. S. Gadala, "Three-dimensional FE analysis of ring rolling by employing thermal spokes method" *International Journal of Mechanical Sciences*, Vol. 45, 2003, pp.1975-1998.
4. M. R. Forouzan, I. Salehi, A. H. Adibi-sedeh, "A comparative study of slab deformation under heavy width reduction by sizing press and vertical rolling using FE analysis" *Journal of Materials Processing Technology*, Vol 209pp . 728-736, 2009.
5. M. R. Forouzan, I. Kiyani, M. Salimi, A. R. Ghassemi, "Analysis of chatter vibration in cold strip rolling, part I: system equivalent damping" *Steel Research International*, Vol 79, pp 475-482 2008.
6. M. R. Forouzan, I. Kiyani, M. R. Niroomand, M. Salimi, "Analysis of chatter vibration in cold strip rolling, part II: optimization of the process parameters", *Steel Research International*, Vol 79, pp 483-489,2008.

### **Internal Journals**

1. M. R. Forouzan, M. Salimi, M. S. Gadala, "Ring Rolling FE Analysis In The Presence Of The Guide Rolls", *Esteghlal Journal of Engineering*, Vol. 21, No. 2, pp. 91-110. 2003.
2. M. R. Forouzan, I. Salehi, "Investigation onto Slab width Reduction by Sizing Press Mill Using FE Simulation", *Esteghlal Journal of Engineering*, No. 1, Vol. 26, pp. 269-283 2007.
3. M. R. Forouzan, A. Heidari, S. J. Golestaneh, "FE Simulation of Submerged Arc Welding of API 5L-X70 Straight Seam Oil and Gas Pipes" Accepted for publication on the *Esteghlal Journal of Engineering*, 2009.
4. A. Heidari, M. R. Forouzan, S. J. Golestaneh, "An Investigation into Effect of Hydrotest and Quenching Processes on the Residual Stresses Due to SAW of API 5L-X70 Pipes Using FEM", Accepted for publication on the *Esteghlal Journal of Engineering*, 2009.

**International Conferences**

1. M. Salimi and M. R. Forouzan, "Determination of Bending Actuators Set-points to Control Crown and Flatness in Hot Rolling of Strip" *Proceeding of 9<sup>th</sup> annual Iranian Society of Mechanical Engineering Conference ISME 2001*, p. 563-573.
2. M. R. Forouzan, A. Ghorbanpour, F. Karimi, "Behavior of through-wall flaws on spiral welded pipes" *Proceeding of International conference on helical seam submerged-arc welded pipe in oil and gas industries*, pp. 96-107 16<sup>th</sup> July 2002, Tehran, Iran.
3. M. R. Forouzan, F. Karimi, H. Yousofian, "comparison of pipes for oil and gas industries" *Proceeding of International conference on helical seam submerged-arc welded pipe in oil and gas industries*, pp. 183-194 16<sup>th</sup> July 2002, Tehran, Iran.
4. F. Karimi, M. R. Forouzan, H. Yousofian, "Investigations into surface cracks of spiral welded pipes" *Proceeding of International conference on helical seam submerged-arc welded pipe in oil and gas industries*, pp. 84-89, 16<sup>th</sup> July 2002, Tehran, Iran.
5. S. Kheradmand, M. R. Forouzan, H. Yousofian, "Oil and gas flow patterns for spiral welded pipes" *Proceeding of International conference on helical seam submerged-arc welded pipe in oil and gas industries*, pp. 195-201 16<sup>th</sup> July 2002, Tehran, Iran.
6. M. R. Forouzan, M. Salimi M. S. Gadala, "Effect of Guide Rolls on Ring Rolling Process Parameters" *Advanced Technology of plasticity (2002) Vol. 1 Proceeding of 7<sup>th</sup> ICTP Oct. 28-31, 2002, Yokohama, Japan*, pp. 679-684.
7. M. Salimi and M.R. Forouzan "Application of Surface Influence Coefficient in Roll Bending Method of Crown and Flatness Control" *Advanced Technology of Plasticity (2002) Vol. 1 Proceeding of 7<sup>th</sup> ICTP Oct. 28-31, 2002, Yokohama, Japan*, pp. 541-546
8. M. R. Forouzan, M. Salimi, M. S. Gadala, "Guide Roll Simulation in FE Analysis of Ring Rolling, Book of the abstracts of 12<sup>th</sup> annual Iranian Society of Mechanical Engineering Conference ISME 2004,p 92
9. M. R. Forouzan, M. Salimi, M. Kadkhodaiee, J. Izadi, "Iran steel making level of technology part (1) equipments" *Book of the abstracts of 12<sup>th</sup> annual Iranian Society of Mechanical Engineering Conference ISME 2004,p 466( 4239)*
10. M. Salimi, M. Kadkhodaiee, M. R. Forouzan, E. Rabiezadeh J. Izadi, "Iran steel making level of technology part (2) productivity indexes" *Book of the abstracts of 12<sup>th</sup> annual Iranian Society of Mechanical Engineering Conference ISME 2004,p 462( 4240)*
11. M. R. Forouzan, M. Salimi, M. S. Gadala, "ALE Axi-Symmetrical Forging Approach to Ring Rolling FE Simulation", *International conference on computational methods ICCM2004, 15-17 Dec 2004, Singapore, Published on: International Computational Methods, Springer Verlag, The Netherlands, pp. 689-693, 2006.*
12. I. Salehi, M. R. Forouzan, M. Esfahanian, M. Salimi, A. H. Adibi-sedeh, "Elasto-Viscoplastic FE Analysis of Slab Width Reduction by Sizing Press Mill" *Asia Steel International Conference 06, 9-11 May 2006, Fukuoka, Japan.*

13. A. M. R. Forouzan, A. Ghasemi, P. Golzad, S. N. Verdi, M. Esfahanian, "Patch design in order to crack arrest on train bogies using FE analysis" The 13<sup>th</sup> annual (International) Conference on Mechanical Engineering ISME2005, Book of abstract p.35 (4245)
14. M. R. Forouzan, E. Kianpour, M. R. Jalali, "Simulation of Stress Corrosion cracking on oil and gas pipes in order to predicting pipeline lifetime" The 13<sup>th</sup> annual (International) Conference on Mechanical Engineering ISME2005, Book of abstract p.306 (4309)
15. M. R. Forouzan, S. J. Mirfattah, S. J. Golastaneh, "Simulation of quenching process on oil and gas pipes in order to predicting residual stresses" The 13<sup>th</sup> annual (International) Conference on Mechanical Engineering ISME2005, Book of abstract p.307 (4310)
16. M. Jelokhanian, M. Jelokhanian, M. R. Forouzan, "Design and manufacturing pneumatic gauge in order to grade Peykan pistons" The 13<sup>th</sup> annual (International) Conference on Mechanical Engineering ISME 2005, Book of abstract p.228 (4311)
17. M. Silani, A. Behashti, M.R. Forouzan, "Effect of patch connection method on fracture resistance of cracked sheets", "Book of abstracts, p.34 The 14<sup>th</sup> annual (International) Conference on Mechanical Engineering ISME2006, 16-18 May 2006, Isfahan University of technology, Isfahan, Iran (5315)
18. M. R. Niroomand, M. R. Forouzan, S. J. Golastaneh, S. A. R. Tabatabaiee, "Optimization of Spot welding using internal penalty function", The 14<sup>th</sup> annual (International) Conference on Mechanical Engineering ISME2006, Book of abstracts p. 574 16-18 May 2006, Isfahan University of technology, Isfahan, Iran
19. M. R. Forouzan, I. Salehi, M. Salimi, M. Esfahanian, "Investigations onto Sizing press width reduction process by Elasto-Viscoplastic FE Analysis" The 14<sup>th</sup> annual (International) Conference on Mechanical Engineering ISME2006, ISME2006, Book of abstracts p. 67, 16-18 May 2006, Isfahan University of technology, Isfahan, Iran
20. M. R. Forouzan, A. Heidari, S. J. Mirfattah, M. R. Niroomand, S. J. Golastaneh, "Simulation of TIG Welding Process in order to residual stress determination using Finite Element Analysis", Book of abstract p. 549, The 14<sup>th</sup> annual (International) Conference on Mechanical Engineering ISME2006, 16-18 May 2006, Isfahan University of technology, Isfahan, Iran
21. M. R. Forouzan, M. R. Niroomand, S. J. Golastaneh, S. A. R. Tabatabaiee, "Optimization of residual stresses of welding process of large diameter oil and gas pipes" 15th Annual ( International ) Conference on Mechanical Engineering (ISME 2007), pp.899-900
22. M. Olfatnia, M. R. Forouzan, M. Jamshidian, M. Silani "Simulation of residual stress effect on stress corrosion crack growth in gas pipelines "Conference on applications and design in mechanical engineering 2007 (CADM 2007), pp 306-312, Malaysia, 2007
23. M. R. Forouzan, M. Fasihfar, M. Dorri, "Simulation of regenerative chatter on the 2 high and 4 high cold rolling stands" pp. 877, The 16<sup>th</sup> annual (International) Conference on Mechanical Engineering ISME2008, 13-15 May 2008, Shahid Bahonar University of Kerman, Kerman, Iran

