

Curriculum Vitae

Farzan Ghalichi, PhD

Professor of Biomedical Engineering - Biomechanics

In the name of God

The beneficent and the merciful

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Personal:

- 1.1. **First name:** Farzan
- 1.2. **Surname:** Ghalichi
- 1.3. **Marital Status:** Married and three children
- 1.4. **Birth Date:** June.28.1962

Professional Experience:

- 4.1. 1987 Lecturer in Mechanical Eng. in the faculty of technology , Shiraz , Iran.
 - 4.2. 1988 Two years of experience in the heavy industry factories as a mechanical engin and manager.
 - 4.3. 1992 Some experiences during my master degree about biomaterials specially on the polyester arterial prostheses.
 - 4.4. 1994-1998 Pump Lab. Lecturer at Laval University, Quebec, Canada.
 - 4.5. 1998-1999 Lecturer at Mechanical Eng. Dep., Ourmia University, Iran.
 - 4.6. 1999-2010 Lecturer at Biomedical Eng. Dep., Mechanical Eng. Group and Chemical Eng. Dep. of Sahand University of Technology.
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Education:

2.1 1994 I started my Ph.D. degree at the Mechanical Engineering Department with collaboration of the Surgery Department of the Laval University and Quebec Biomaterial Institute. The title of my Thesis was *"The Numerical Analysis of pulsatile blood flow in vascular graft anastomosis in different geometries: 1) Human Carotid Artery Bifurction. 2) Asymmetric stenosis and 3) End-to-side anastomosis,* under supervision of Dr. A. De Champlain and Dr. Robert Guidoin.

2.1.1 Graduate completed courses

Mécanique des Fluides Avancées (Advanced Fluid Mechanics) (3 cr) given by Dr. G. Dumas

Element Finis de Frontière (Boundary Finite Element) (3 cr) given by Dr. A. Gakwaya

Mécanique des Milieus Continus given by Dr. A. Gakwaya

Mathématique Avancées pour les ingénieurs (Advanced Mechanics for Engineers) given by Dr. J. Dickinson

2.2. 1993-...

Graduate Studies: I started my M.Sc program at the Department of Mechanical Engineering with collaboration of the Surgery Department of the Laval University and Quebec Biomaterial Institute. I finished my master degree in summer 1994. The title of my Thesis was, *The Study of Fatigue in an End-to-End Anastomosis in the Arterial Prostheses,* under supervision of Dr. A. Cardou and Dr. R. Guidoin.

2.2.1. Graduate completed courses

Introduction to Finite Elements Method (3 cr.) given by Dr. G. Dhatt

Fatigue, Plasticity and rupture (3 cr.) given by Dr. A. Cardou

Advanced Gas Dynamics (3 cr.) given by Dr. C. Bourque

Introduction to Biomaterials (2 cr.) given by Dr. Doillion

2.3. 1983-87

Undergraduate Studies: I started my B.Sc. program in the Faculty of Engineering, Tabriz University, Tabriz, Iran. I obtained my B.Sc. degree in mechanical Engineering (Termo-Fluids) with an average of 10.73/20, on Mars. 1987.

2.4. Secondary Studies

I finished my secondary studies, in branch of Physics and Mathematics with an average 19.30 from 20, in Iran, in 1980.

Professional Membership:

Areas of Interests:

- 6.1. Solid and Fluid Mechanics
- 6.2. Biomechanics; Biomaterials
- 6.3. Blood Flow Circulation System
- 6.4. Destruction of cancerous cells using ultrasound

Research Skills:

Language:

- 3.1. **English:** Good
- 3.2. **French:** Good

Teaching Experience:

- 0.1 Heat Transfer (B.Sc)
- 0.2 Fluid Mechanics (B.Sc)
- 0.3 Introduction to Medical Physics (B.Sc)
- 0.4 Advanced Fluid Mechanics (M.Sc)
- 0.5 Computational Fluid Dynamics, CFD (M.Sc, Ph.D)
- 0.6 Advanced Numerical Analysis (M.Sc, Ph.D)
- 0.7 Static and Strength of Materials (B.Sc)
- 0.8 Introduction to General Biomechanics (B.Sc)
- 0.9 Fluid Mechanics in Biological Systems (B.Sc)
- 0.10 Finite Element Method in Biomechanics (B.Sc)
- 0.11 Boundary Layer and Turbulence (M.Sc)

Training Courses and Workshops Attended:

1998 Fluent Users' Group Meeting, June 16-18, Burlington, VT, USA

Academic Accomplishments:

Awards and Distinctions:

Winner of second price of competition "Scientific Day of Saint-Francois d'Assise Hospital, Quebec, Canada".

References:

PUBLISHED JOURNAL PAPERS:

1. **Ghalichi F.**, Deng X., De Champlain A., Douville Y. and Guidoin R. "Low-Reynolds Number Turbulence Modeling of Blood Flow in Arterial stenoses". (1998) **Biorheology**, 30: 4,5, P. 281-294.
2. Turbulence Modeling for CFD, **Second Edition**, by **Dr. David C. Wilcox**, (1998), p. 212-215.
3. **Ghalichi F.**, Deng X., Marois Y., De Champlain A. and Guidoin R. "Hemodynamic Performance of Polyester Protein-Impregnated Arterial Prostheses after Implantation: A Plea for Fast Resorption of the Coating". (1999) **ASAIO (American Society of Artificial Internal Organs) J.**, 45: 18-24.
4. **Ghalichi F.**, Deng X. "Turbulence Detection in a Stenosed Artery Bifurcation by Numerical Simulation of Pulsatile Blood Flow Using the Low-Reynolds Number Turbulence Model". (2003) **Biorheology**, 36: 4,5, P. 281-294.
5. Behnia S., **Ghalichi F.**, Bonabi A., and Jafari A. "Theoretical Design of a Fixed-Focus Transducer For the Ultrasound Thermotherapy of Brain". (2005) **European Journal of Ultrasound**, Vol. 26, p 549.
6. **Ghalichi F.** and Behnia S. "Cancerous Cells Destruction Using Concentrated Ultrasonic Waves on Three Dimensional Model of Breast Tissues". (2005) **Iranian Journal of Medical Physics**, pp. 45-51, Vol. 2, No. 6.
7. Behnia S., **Ghalichi F.**, Jafari A. and Bonabi A. " Numerical Simulation of Ultrasound Thermotherapy of Brain with a Scanned Focus Transducer". (2005) **Acoustic Society of America Journal**, Vol. 117, 4, pp. 2412-2412.
8. Behnia S., **Ghalichi F.**, Bonabi A., and Jafari A. "Ultrasound Thermotherapy of Breast: Theoretical Design of the Transducer and Numerical Simulation of the Procedure". (2006) **Japanese journal of Applied Physics**, pp. 1856-1863, Vol. 45, No. 3A.
9. Oscuii H.N., Shadpoor M.T. and **Ghalichi F.** "Quantitative Analysis Evaluation of Flow Characteristics in Elastic Artery with Fluid-Structure Interaction Model Using Real Pulsatile Pressure Waveforms". (2006) **Journal of Biomechanics** Vol. 39, Supplement 1, pp. 212.

۱۰. Behnia S., **Ghalichi F.**, Bonabi A., and Jafari A. "Finite element simulation of ultrasound thermo-therapy of brain: Theoretical considerations for reducing the generated temperatures at the post target bone". (۲۰۰۶) **Journal of Biomechanics Vol. ۳۹, Supplement ۱, pp. ۴۴۱.**
۱۱. **Ghalichi F.** and Behnia S. "Transducer Design for Ultrasound-Induced Hyperthermia of Cancerous Tissues". (۲۰۰۷) **Iranian Journal of Biomedical Engineering, Vol. ۲, pp. ۱۱۱-۱۱۸.**
۱۲. **Ghalichi F.**, Ahmadlouii M., and Ramazani A. "Blood Flow Simulation and Comparing of Hemodynamic Factors in Aorta-Coronary and Coronary-Coronary Bypasses". (۲۰۰۷) **Iranian Journal of Biomedical Engineering, Vol. ۱, pp. ۱-۸.**
۱۳. Zahedmanesh H., **Ghalichi F.** and Behnia S. "A Numerical Investigation of the Time Reversal Mirror Technique for Trans-Skull Brain Cancer Ultrasound Surgery". (۲۰۰۷) **Iranian Journal of Medical Physics, Vol. ۴, No. ۱۴-۱۵, p. ۴۱-۵۰.**
۱۴. Oscuii H.N., Shadpour M.T. and **Ghalichi F.** "Biomechanical Analysis of Wall Remodeling in Elastic Arteries With Application of Fluid-Solid Interaction Methods". (۲۰۰۷) **Journal of Mechanics in Medicine and Biology, Vol. ۷, No. ۴, p. ۴۳۳-۴۴۷.**
۱۵. Vahdati A., Rouhi G.R., **Ghalichi F.**, and Tahani M. "Mechanically induced trabecular bone remodeling including cellular accommodation effect: A computer simulation" **Transactions of the Canadian Society for Mechanical Engineering Volume ۳۲ (۲۰۰۸), Issue ۳-۴, P. ۳۷۱-۳۸۲.**
۱۶. Oscuii H.N., Shadpour M.T. and **Ghalichi F.** "Effects of Arterial Wall Elasticity on Biaxial Loading of Endothelial Cells". (۲۰۰۸) **Amirkabir Journal of Science and Technology, Vol. ۶۸, p. ۲۵-۳۲.**
۱۷. Oscuii H.N., Shadpour M.T. and **Ghalichi F.** "Study of Elasticity Effect on Wall Shear Stress Pattern and Endothelial Cells Response" (۲۰۰۸) **Medical Journal of Tabriz University of Medical Sciences and Health Services, Vol. ۳۰, No. ۲, p. ۱۲۷-۱۳۲.**
۱۸. Hazrati J., **Ghalichi F.** and Mirzakouchaki B. "Application of Modified Superposition Model to Nonlinear Viscoelastic Behavior of Periodontal Ligament" (۲۰۰۸) **J. Biomedical Science and Engineering, ۱, ۱۸۸-۱۹۲.**
۱۹. Hazrati J., **Ghalichi F.** and Mirzakouchaki B. "Strain Dependent Stress Relaxation Behavior of Periodontal Ligament" (۲۰۰۸) **Journal of Biomechanics, Volume ۴۱, Supplement ۱.**
۲۰. Hazrati J., **Ghalichi F.**, and Behnam Mirzakouchaki. "Numerical simulation of orthodontic bone remodeling" (۲۰۰۹) **Orthodontic Waves, ۶۸, p. ۶۴-۷۱.**

۲۱. Mottaghi M., **Ghalichi F.**, and Ghavifekr H. "Dual Comb Unit High-g Accelerator Based on CMOS-MEMS Technology" (۲۰۰۹) **Sensors & Transducers, Vol. ۱۳, ۴, p. ۱۷-۲۸.**
۲۲. Avari H., **Ghalichi F.** and Ahmadi Darab M. "A Numerical Study of Pulmonary Gas Exchange System to Assess a Proper Relationship between Respiration Rhythm and Individual's Activity Rate" (Spring ۲۰۰۸) **Iranian Journal of Biomedical Engineering, Vol. ۲, Number ۱, pp. ۳۹-۴۶.**
۲۳. Ahmadi Darab M., **Ghalichi F.** and Ramazani A. "Effect of Coronary-Coronary Bypass Geometrical Configuration On Blood Flow Parameters in End-to-Side and Side-to-End Anastomoses Regions" (۲۰۱۰) **Iranian Journal of Chemistry and Chemical Engineering (IJCCE) Vol. ۳, ۲۹, pp. ۱۰۱-۱۰۹.**
۲۴. Ramazani A., Ahmadi Darab M., **Ghalichi F.** and Kamyabi A. "Simulation of Three Dimensional Pulsatile Blood Flow in Aorta-Coronary Bypass" (Spring ۲۰۱۰) **Iranian Journal of Biomedical Engineering, Vol. ۴, Number ۱, pp. ۶۵-۷۲.**
۲۵. Khalessi H., Niroomand Oscuii H. and **Ghalichi F.** "Comparison of Stress Distribution Patterns in Elastic Artery Remodeling Using Fluid-Solid Interactions" (Spring ۲۰۱۱) **Iranian Journal of Biomedical Engineering, Vol. ۵, Number ۱, pp. ۶۷-۷۸.**
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PUBLISHED CONFERENCE PAPERS

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۱. *The Canadian Biomaterial Society: Ottawa, Canada, ۱۹۹۵.* "Fluid properties in a severe arterial stenosis; Part (۱): Steady laminar flow".
۲. *The Canadian Medical and Biological Engineering Society: Charlottetown, Prince Edward Island, Canada, ۲۶-۲۹-June, ۱۹۹۶.* "Hemodynamic performance of polyester protein-impregnated arterial prostheses after implantation: A plea for fast resorption of the coating".
۳. *Journee Scientifique de l'Hopital Saint-Francois d'Assise : Quebec, ۲۲ March, ۱۹۹۶.* "Hemodynamic performance of polyester protein-impregnated arterial prostheses after implantation: A plea for fast resorption of the coating". (Winner of second price of competition).
۴. *The Canadian Medical and Biological Engineering Society: Toronto, Ontario, Canada, ۲۸-۳۱ May, ۱۹۹۷.* "Flow recirculation and turbulence downstream of an axisymmetric arterial stenosis: a numerical approach".
۵. *۱۷th Canadian Congress of Applied Mechanics (CANCAM): Quebec, Canada, ۰۱-۰۵ June, ۱۹۹۷.* "A low-Reynolds number turbulence modeling of blood flow in arterial stenoses".
۶. *Journee Scientifique de departement de chirurgie : Universite Laval, ۹ May,*

1997. "Etude numerique de l'effet d'une stenose sur le comportement hemodynamique des carotides".
7. **Sixth Annual Conference of Canadian Society of Computational Fluid Dynamics (CFD): Quebec, Canada, 7-9 June 1998.** "Detection of turbulence in stenotic carotid bifurcation by numerical simulation of physiological pulsatile flow".
 8. **Fluent User's Group Meeting: Burlington, U.S.A., 17-18 June 1998:** "Numerical simulation of physiological pulsatile turbulent flow in a stenosed carotid artery bifurcation".
 9. **Third World Congress of Biomechanics: Sapporo, Hokaido, Japan, 2-8 August 1998.** "Low Reynolds turbulence modeling of blood flow in arterial stenosis".
 10. **Ninth conference of Iranian Biomedical Engineering: Tehran, Iran, 1-3 March, 1999.** "Numerical simulation of physiological pulsatile flow in a stenosed artery".
 11. **Fourth World Congress of Biomechanics: Calgary, Canada, 4-9 August 2002.** "Simulation Of Ultrasonic Waves Effects On Cervix Cancerous Tissues".
 12. **First International Meeting On Applied Physics, APHYS 2002: Badajoz, Spain, 13-18 October 2002.** "Calculations For Ultrasonic Transducer Design and Temperature Tracking For Hyperthermia In Cervical Cancer".
 13. **Thirteenth Biennial Conference of Canadian Society for Biomechanics: Halifax, Canada, 4-7 Aug, 2004.** "Ultrasound Hyperthermia Temperature Tracking of Cervix Tumors Including Vascular Network Effects".
 14. **24th Conference of The Canadian Medical and Biological Engineering Society: Quebec, Canada, 9-11 September, 2004.** "Hyperthermia Treatment and Temperature Control of the Breast Cancer Therapy Applying Ultrasound Induced Heating".
 15. **Eleventh Iranian Conference on Biomedical Engineering: AmirKabirUniversity, TehranIran, 17-18 Feb., 2004.** "Three Dimensional Pulsatile Blood Flow Simulation in Aorta Coronary Bypasses".
 16. **Eleventh Iranian Conference on Biomedical Engineering: AmirKabirUniversity, Tehran, Iran, 17-18 Feb., 2004.** "Comparing of Aorta-Coronary and Coronary-Coronary Bypasses Blood Flow fields".
 17. **Ninth National Congress of Iranian Chemical Engineering: University of Science and Technology, Tehran, Iran, 24-26 Nov., 2004.** "The Effect of different Degree of Stenosis and Anastomosis Angles on Flow Field in Coronary-Coronary Bypass".
 18. **Tenth National Congress of Iranian Chemical Engineering: University of Sistan and Blouchestan, Zahedan, Iran, 10-16 Nov., 2005.** "Numerical Blood Flow Simulation in a series of Coronary Artery Stenoses".
 19. **Tenth National Congress of Iranian Chemical Engineering: University of Sistan and Blouchestan, Zahedan, Iran, 10-16 Nov., 2005.** "Effects of Variable Stenose Percents and Bypass Graft Angles on the Temporal Shear Stress Gradients in the Aorto-Coronary Bypass".
 20. **Euroson 2005: Geneva, Swiss, 20-28 Sep, 2005.** "Ultrasound Thermotherapy of Breast: Theoretical Design of the Transducer and Numerical Simulation of the Procedure".
 21. **Euroson 2005: Geneva, Swiss, 20-28 Sep, 2005.** "Theoretical Design of a

- Fixed-Focused Transducer for the Ultrasound Thermo-therapy of Brain”.
۲۲. *Twelvth Iranian Conference on Biomedical Engineering: Sahand University of Technology, Tabriz, Iran, ۱۶-۱۸ Nov., ۲۰۰۵.* “Nonlinear Time Series Analysis: Application to Cardiac “Diseases””.
 ۲۳. *۵th World Congress of Biomechanics: Munich, Germany, ۲۹ July- ۴ August ۲۰۰۶.* “Quantitative Analysis Evaluation of Flow Characteristics in Elastic Artery with Fluid-Structure Interaction Model Using Real Pulsatile Pressure Waveforms”.
 ۲۴. *۵th World Congress of Biomechanics: Munich, Germany, ۲۹ July- ۴ August ۲۰۰۶.* “Finite Element Simulation of Ultrasound Thermo-Theoretical Consideration for Reducing the General Temperatures at the Post-Target Bone”.
 ۲۵. A. Vahdati, **F. Ghalichi** and G. Rouhi, "Implementation and Investigation of a Bone Adaptation Theory in MATLAB". *Cairo International Biomedical Engineering Conference, CIBEC: Cairo, Egypt, ۲۰۰۶.* "
 ۲۶. A. Vahdati and **F. Ghalichi**, "Computer simulation of a strain energy density based bone adaptation theory and some related applications using MATLAB". *۲nd Annual Houston Conference on Biomedical Engineering Research, ۸-۹ February ۲۰۰۷, University Hilton hotel and conference center.*
 ۲۷. A. Vahdati and **F. Ghalichi**, "Computer simulation and applications of a versatile mechanistic bone adaptation theory". *۱۳th Iranian Conference on Biomedical Engineering (ICBME ۱۳), Sharif University, Iran.*
 ۲۸. A. Vahdati, **F. Ghalichi**, G. Rouhi and M. Tahani, "Computer simulation of trabecular bone remodeling: role of cellular accommodation in time-dependent simulations". *۱۷-th International Conference on Computer Methods in Mechanics CMM, June ۱۹-۲۲, ۲۰۰۷, Lodz-Spala, Poland.*
 ۲۹. M. Mottaghi, **F. Ghalichi**, H. Badri Ghavifekr and H. Niroomand Oskui, "Design and Development of a MEMS Combaccelerometer for Phacoemulsification Handpiece". *ASME Information Storage and Processing Systems Conference, June ۱۶-۱۷, ۲۰۰۸, Santa Clara, CA, USA.*
 ۳۰. M. Mottaghi, **F. Ghalichi** and H. Badri Ghavifekr, "Development of Microsensor to Minimize Post Cataract Surgery Complications".
 ۳۱. M. Mottaghi, **F. Ghalichi** and H. Badri Ghavifekr, "Design of a MEMS Sensor for Surgical Handpiece". *The ۲۰th International Conference on Microelectronics, ICM, IEEE ۲۰۰۸, ۱۴-۱۷ December ۲۰۰۸, University of Sharjah, Sharjah, UAE, P. ۲۵۵-۲۵۸.*
 ۳۲. J. Hazrati, **F. Ghalichi**, B. Mirzakouchaki. “Strain Dependent Stress Relaxation Behavior of Periodontal Ligament”. *Congress of European Society of Biomechanics (ESB) ۲۰۰۸, Lucern, Swiss.*
 ۳۳. J. Hazrati, **F. Ghalichi**, B. Mirzakouchaki. “Application of Modified Superposition Model to Nonlinear Viscoelastic Behavior of Periodontal Ligament”. *International Congress of Bioinformatics and Biomedical Engineering (ICBBE) ۲۰۰۸.*
 ۳۴. J. Hazrati, **F. Ghalichi**, B. Mirzakouchaki. “Numerical Simulation of Orthodontic Tooth Movement Using Bone Remodeling Theories” *The ۱۵th Iranian Conference on Biomedical Engineering (ICBME) ۱۲-۱۳ Feb., ۲۰۰۹, Mashhad, Iran.*

۳۵. J. Hazrati, **F. Ghalichi**, B. Mirzakouchaki. "A Nonlinear Viscoelastic Model to Describe Periodontal Ligament Behavior" *The 1st Iranian Conference on Biomedical Engineering (ICBME) 12-13 Feb., 2009, Mashhad, Iran.*
۳۶. J. Hazrati, **F. Ghalichi**, B. Mirzakouchaki. "A Three-Dimensional Finite Elements Analysis of the Periodontal Ligament under Orthodontic Loads" *The 1st Iranian Conference on Biomedical Engineering (ICBME) 12-13 Feb., 2009, Mashhad, Iran.*
۳۷. J. Hazrati, **F. Ghalichi**, B. Mirzakouchaki. "A New Viscoelastic Model for Rabbit Periodontal Ligament" *The 1st International Conference on Biomedical Engineering (ICBME) 2008.*
۳۸. H.N. Oscuii, M.T. Shadpour and **F. Ghalichi** "Numerical Modeling Of Age Related Remodelling Of Thoracic Aorta And Mechanical Stress Cosequences" *American Society of Biomechanics, Annual Meeting, Ann-Arbor, MI, USA, 2008.*
۳۹. A. Moallemi, **F. Ghalichi**, R. Khosbakhti, M.R. Soleymani "Artificial Neural networks for Prediction of Efficiency, Fuel Consumption and Exhaust Temperature in a CNG/Diesel Dual Fuel Engine" *The 1st Annual International Conference on Mechanical engineering, May 19-21, 2009, University of Tehran, Tehran, Iran.*
۴۰. J. Hazrati, **F. Ghalichi**, B. Mirzakouchaki. "Determination of Moment-to-Force Ratio and Center of Rotation in a Mandibular Incisor for Specific Orthodontic Tooth Movements" *International Conference on Tissue Engineering (ICTE), July 9-11, 2009, Leiria, Portugal.*
۴۱. H. Khalesi, H.N.Oscuii and **F. Ghalichi** "Effects of Static and Dynamic loads on Remodeling of Elastic Artery Wall" *The 1st Iranian Conference on Biomedical Engineering (ICBME) 20-21 Dec 2009, Tehran University of Medical Sciences, Tehran, Iran.*
۴۲. H. Khalesi, H.N.Oscuii and **F. Ghalichi** "Finite Element Analysis of the Impact of the Method Applied to Extend cutting edges of an artery from Zero stress state to unloaded stress state on Prediction of Residual Stress distribution on arterial wall" *The 1st Iranian Conference on Biomedical Engineering (ICBME) 20-21 Dec 2009, Tehran University of Medical Sciences, Tehran, Iran.*
۴۳. H. Khalesi, H.N.Oscuii and **F. Ghalichi** "The Study of the Roles of Axial Stretch in Mechanical Behavior of Elastic Artery Wall with Aging" *The 1st Iranian Conference on Biomedical Engineering (ICBME) 20-21 Dec 2009, Tehran University of Medical Sciences, Tehran, Iran.*
۴۴. N. Asgari, **F. Ghalichi** and H.N. Oscuii "Investigation of the Influence of Elastic Arterial Wall on Blood Flow Parameters in Severe Stenosed Internal Carotid Artery Bifurcation" *The 1st Iranian Conference on Biomedical Engineering (ICBME) 20-21 Dec 2009, Tehran University of Medical Sciences, Tehran, Iran.*
۴۵. N. Asgari, **F. Ghalichi** and H.N. Oscuii "Investigation of the Relationship between Arterial Stenosis Severity and Blood Turbulent Flow Parameters" *The 1st Iranian Conference on Biomedical Engineering (ICBME) 20-21 Dec 2009, Tehran University of Medical Sciences, Tehran, Iran.*
۴۶. A. Margoub, **F. Ghalichi**, and B. Mirzakouchaki "A New Designed Customized Facial Cleft Implant Based on Rapid Prototyping Method" *1st World Congress of Biomechanics 1-7 August 2010, Singapore.*

٤٧. M. Sarmast, H.N. Oscuii, and **F. ghalichi** "A Comparative Study of the Hemodynamic in Two Types of Grafts of ٦-mm versus ٦-٨ mm as an Upper Arm Straight Graft Hemodialysis Access" **٦th World Congress of Biomechanics ١-٦ August ٢٠١٠, Singapore.**
٤٨. M. Hajizadeh, **F. Ghalichi**, and B. Mirzakouchaki "Effect of Bracket Base Configuration on Shear Bond Strength of Bracket-Adhesive-Tooth System" **٦th World Congress of Biomechanics ١-٦ August ٢٠١٠, Singapore.**
٤٩. M. Haddadi, H.N. Oscuii, and **F. Ghalichi** "Numerical Optimization of Flow Path in a Typical Axial Heart Pump" **٦th World Congress of Biomechanics ١-٦ August ٢٠١٠, Singapore.**
٥٠. H. Khalesi, H.N. Oscuii, and **F. Ghalichi** "Analysis of Thoracic Aorta Remodeling during Aging with Considering Opening Angle and Tethering Effects" **٦th World Congress of Biomechanics ١-٦ August ٢٠١٠, Singapore.**
٥١. N. Asgari, **F. Ghalichi** and H.N. Oscuii "Investigation the Influence of Elastic Wall on Blood Flow Parameters in Critical Stenosed ICA Considering Fluid-Structure Interaction" **6th World Congress of Biomechanics 1-6 August 2010, Singapore.**
٥٢. N. Asgari, **F. Ghalichi** and H.N. Oscuii "Prediction of Critical Reynolds Number in Sever Stenosed Carotid Artery Bifurcation by Numerical Simulation of Transition Blood Flow from Laminar to Turbulent" **6th World Congress of Biomechanics 1-6 August 2010, Singapore.**
٥٣. M. Haddadi, H.N. Oscuii, and **F. Ghalichi** "Numerical Analysis of Hemolysis in Axial Heart Pump" **١٦th Annual and ٦th International Fluid Dynamics Conference, ٢٦-٢٨ Oct. ٢٠١٠, Shiraz, Iran.**
٥٤. M. Sarmast, H.N. Oscuii, **F. Ghalichi**, and E. Samiei "Numerical Investigation of the Effects of Anastomosis Angle on Hemodynamic Alterations within a Hemodialysis Vascular Access Graft" **١٦th Annual and ٦th International Fluid Dynamics Conference, ٢٦-٢٨ Oct. ٢٠١٠, Shiraz, Iran.**
٥٥. M. Hajizadeh, B. Mirzakouchaki, and **F. Ghalichi** "Effect of tooth layers' segmentation on pattern of stress distribution in bracket- adhesive- tooth system" **The ١٨th Iranian Conference on Biomedical Engineering (ICBME) ١٤-١٦ Dec ٢٠١١, University of Tarbiat Modares, Tehran, Iran. p. ٢٧-٣٢ IEEE Conference Publications.**
٥٦. A. Marghoub, **F. Ghalichi**, B. Mirzakouchaki, and H. Niroomand "A New Custom Designed Cleft Lip and Palate Implant Based on MARP" **The ١٨th Iranian Conference on Biomedical Engineering (ICBME) ١٤-١٦ Dec ٢٠١١, University of Tarbiat Modares, Tehran, Iran. p. ١٢٨-١٣٠ IEEE Conference Publications.**
٥٧. R. Tabe, **F. Ghalichi**, S. Hosseinpour and K. Ghasemzadeh "Numerical Simulation of Transitional Blood Flow in Large Arteries" **The ١٨th Iranian Conference on Biomedical Engineering (ICBME) ١٤-١٦ Dec ٢٠١١, University of Tarbiat Modares, Tehran, Iran. p. ٦٨-٧١ IEEE Conference Publications.**
٥٨. M. Haddadi, H. Niroomand Oscuii and **F. Ghalichi** "An Investigation on tip Clearance Effect on PVAD's Performance" **ISB, ٣-٧ july ٢٠١١, Brussels, Belgium.**
٥٩. Z. Nabizadeh Farashah, H. Niroomand Oscuii and **F. Ghalichi** "Numerical Simulation of the Effect of Femoral Bifurcation Angle on Hemodynamics with Applying Fluid-Structure Interaction Method" **ISB, ٣-٧ july ٢٠١١, Brussels, Belgium.**
٦٠. H. Hassani, **F. Ghalichi** and H. Niroomand Oscuii "Velocity Comparison Between Doppler Ultrasound Velocimetry and Numerical Simulation of Blood Flow Through Internal Carotid Artery" **ISB, ٣-٧ july ٢٠١١, Brussels, Belgium.**
٦١. M. Ramezani, **F. Ghalichi** and H. Niroomand Oscuii "Simulation of Movement

and Deformation of the Red Blood Cell Through a Capillary Using Fluid-Structure Interaction Method" *ISB*, ۳-۷ July ۲۰۱۱, *Brussels, Belgium*.

۶۶. B. Bahrami, **F. Ghalichi**, B. Mirzakouchaki, A. Marghoub and Ashtiani "Stress Distribution in Components of Dental Implant under Immediate Loading: A Precious 3D Finite Element Analysis" *The ۱st Iranian Conference on Biomedical Engineering (ICBME) ۲۰-۲۱ Dec ۲۰۱۲, AmirKabir University of Technology, Tehran, Iran. p. IEEE Conference Publications.*
۶۷. F. Mottaghi, **F. Ghalichi** and S. Behnia "Nonlinear Dynamics of an Encapsulated Microbubble Contrast Agent" *The ۱st Iranian Conference on Biomedical Engineering (ICBME) ۲۰-۲۱ Dec ۲۰۱۲, AmirKabir University of Technology, Tehran, Iran. p. IEEE Conference Publications.*
۶۸. M. Hajizadeh, B. Mirzakouchaki, **F. Ghalichi** and S. Shahrbafe "Comparison of Stress Distribution Pattern in Orthodontic Bracket-Adhesive-Tooth System During Treatment Time and Debonding Stage" *The ASME ۲۰۱۲ ۱۱th Biennial Conference on Engineering Systems Design and Analysis (ESDA ۲۰۱۲)*, July ۲-۴, ۲۰۱۲, Nantes, France.

PATENTS:

- ۱- A kind of shock absorber dental implant (National Patent).
- ۲- A kind of (maxilla facial) customized implant (National Patent).

SUPERVISED M.Sc Students:

۱. **Majid Ahmadloui Darab** (*He continues his study towards Ph.D degree in Canada.*)
۲. **Khodae**
۳. **Majid Naderi**
۴. **Mahdi Baloo**
۵. **MirzaAgha**
۶. **Mojtaba Sanobari**
۷. **Ali Vahdati** (*He continues his study towards Ph.D degree in USA.*)
۸. **Houman Zahedmanesh** (*He continues his study towards Ph.D degree in Ireland.*)
۹. **Hamed Avari** (*He continues his study towards Ph.D degree in Canada.*)
۱۰. **Maryam HajiZadeh** (*She continues her study towards Ph.D degree in Iran.*)
۱۱. **Hajar Hassani** (*She continues her study towards Ph.D degree in Iran.*)
۱۲. **Nasser Asgari** (*He continues his study towards Ph.D degree in Iran.*)
۱۳. **Massoud Ramazani**
۱۴. **Mohammad Haddadi** (*He continues his study towards Ph.D degree in*

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۱۵. **Mohammad Sarmast**
۱۶. **Zahra Nabizadeh**
۱۷. **Arsalan Marghoub**
۱۸. **Mostafa Shahir**
۱۹. **Reza Tabe**
۲۰. **Mohsen Ghassemi**
۲۱. **Hamed Motavallibashi**
۲۲. **Farshad Mottaghi**
۲۳. **Sohrab Valadbeighi**

SUPERVISED Ph.D THESIS:

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۲. **Maryam HajiZadeh**

Technical Reports:

Editing:

Introduction to Medical Imaging Systems

Book Translation from English to Persian:

Biocompatibility