



## Curriculum-Vitae

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1/6/2024

*In the name of God*  
*The beneficent and the merciful*

## 1. Address:

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## 2. Personal:

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|-----|------------------------|----------------------------|
| 2.1 | <b>First name:</b>     | Farzan                     |
| 2.2 | <b>Surname:</b>        | Ghalichi                   |
| 2.3 | <b>Marital Status:</b> | Married and three children |
| 2.4 | <b>Birth Date:</b>     | June.28.1962               |

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## 3. Professional Experiences:

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| 3.1 | 1987                 | Lecturer in Mechanical Eng. in the faculty of technology , Shiraz , Iran.                                   |
| 3.2 | 1988                 | Two years of experience in the heavy industry factories as a mechanical engineer and manager.               |
| 3.3 | 1992                 | Some experiences during my master degree about biomaterials specially on the polyester arterial prostheses. |
| 3.4 | 1994-1998            | Pump Lab. Lecturer at Laval University, Quebec, Canada.   |
| 3.5 | 1998-1999            | Lecturer at Mechanical Eng. Dep., Ourmia University, Iran.  |
| 3.6 | 1999 to be continued | Lecturer in Biomedical Eng. Dep. of Sahand University of Technology.  |

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## 4. Education:

- 4.1    **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**. I finished my PhD in 1998 with an average of A.

#### 4.1.1 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

#### 4.2 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. I finished my master in 1994 with an average of A.

#### 4.2.1 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

#### 4.3 1983-87

Undergraduate Studies: I started my B.Sc. program in the Faculty of Engineering, University of Tabriz, Tabriz, Iran. I obtained my B.Sc. degree in mechanical Engineering (Thermo-Fluids) with an average of 15.73/20, on Mars.1987.

#### 4.4. Secondary Studies

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

### 5. Areas of Interests:

- 5.1 Computational Fluid Dynamics (CFD)
- 5.2 Application of Finite Element Method in Biomechanics
- 5.3 Blood Flow Circulation System
- 5.4 Destruction of cancerous cells using ultrasound
- 5.5 Dental Biomechanics

## 6. Language:

6.1 **English:** Good

6.2 **French:** Good

## 7. Teaching Experiences:

7.1 Heat Transfer (B.Sc.)

7.2 Fluid Mechanics (B.Sc.)

7.3 Introduction to Medical Physics (B.Sc.)

7.4 Advanced Fluid Mechanics (M.Sc.)

7.5 Computational Fluid Dynamics, CFD (M.Sc., Ph.D.)

7.6 Advanced Numerical Analysis (M.Sc., Ph.D.)

7.7 Static and Strength of Materials (B.Sc.)

7.8 Introduction to General Biomechanics (B.Sc.)

7.9 Fluid Mechanics in Biological Systems (B.Sc.)

7.10 Finite Element Method in Biomechanics (B.Sc.)

7.11 Boundary Layer and Turbulence (M.Sc.)

## 8. Training Courses and Workshops Attended:

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

## 9. Awards and Distinctions:

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

## 10. PUBLISHED JOURNAL PAPERS:

**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**, 35: 4, 5, P. 281-294. (ISI)

**Ghalichi F.** et al. "PhD Thesis results have been published" in Turbulence Modeling for CFD, Second Edition, by Dr. David C. Wilcox, (1998), p. 212-215.

**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. (ISI)**

**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**, **35: 4, 5, P. 281-294. (ISI)**

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 s49. (ISI)**

**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.**

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. (ISI)**

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. (ISI)**

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. (ISI)**

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". (2006) **Journal of Biomechanics Vol. 39, Supplement 1, pp. 441. (ISI)**

**Ghalichi F.** and Behnia S. "Transducer Design for Ultrasound-Induced Hyperthermia of Cancerous Tissues". (2007) **Iranian Journal of Biomedical Engineering**, **Vol. 2, pp. 111-118.**

**Ghalichi F.**, Ahmadlouii M., and Ramazani A. "Blood Flow Simulation and Comparing of Hemodynamic Factors in Aorta-Coronary and Coronary-Coronary Bypasses". (2007) **Iranian Journal of Biomedical Engineering, Vol. 1, pp. 1-8.**

Oscuii H.N., Shadpour M.T. and **Ghalichi F.** "Quantitative Analysis Evaluation of Flow Characteristics in Elastic Artery with Fluid-Structure Interaction Model Using Real Pulsatile Pressure Waveforms". (2007) **American Journal of Applied Sciences Vol. 4, (8): 516-524, 2007.**

Zahedmanesh H., **Ghalichi F.** and Behnia S. "A Numerical Investigation of the Time Reversal Mirror Technique for Trans-Skull Brain Cancer Ultrasound Surgery". (2007) **Iranian Journal of Medical Physics, Vol. 4, No. 14-15, p. 41-50.**

Oscuii H.N., Shadpour M.T. and **Ghalichi F.** "Biomechanical Analysis of Wall Remodeling in Elastic Arteries with Application of Fluid-Solid Interaction Methods". (2007) **Journal of Mechanics in Medicine and Biology, Vol. 7, No. 4, p. 433-447. (ISI)**

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 32 (2008), Issue 3-4, P. 371-382. (ISI)**

Oscuii H.N., Shadpour M.T. and **Ghalichi F.** "Effects of Arterial Wall Elasticity on Biaxial Loading of Endothelial Cells". (2008) **Amirkabir Journal of Science and Technology, Vol. 68, p. 25-32.**

Oscuii H.N., Shadpour M.T. and **Ghalichi F.** "Study of Elasticity Effect on Wall Shear Stress Pattern and Endothelial Cells Response" (2008) **Medical Journal of Tabriz University of Medical Sciences and Health Services, Vol. 30, No. 2, p. 127-132.**

Hazrati J., **Ghalichi F.** and Mirzakouchaki B. "Application of Modified Superposition Model to Nonlinear Viscoelastic Behavior of Periodontal Ligament" (2008) **J. Biomedical Science and Engineering, 1, 188-192. (ISI)**

Hazrati J., **Ghalichi F.** and Mirzakouchaki B. "Strain Dependent Stress Relaxation Behavior of Periodontal Ligament" (2008) **Journal of Biomechanics, Volume 41, Supplement 1. (ISI)**

Hazrati J., **Ghalichi F.**, and Mirzakouchaki B. "Numerical simulation of orthodontic bone remodeling" (2009) **Orthodontic Waves**, 68, p. 64-71.

Mottaghi M., **Ghalichi F.**, and Ghavifekr H. "Dual Comb Unit High-g Accelerator Based on CMOS-MEMS Technology" (2009) **Sensors & Transducers**, Vol. 13, 4, p. 17-28. (ISI)

Avari H., **Ghalichi F.** and Ahmadvouydarab M. "A Numerical Study of Pulmonary Gas Exchange System to Assess a Proper Relationship between Respiration Rhythm and Individual's Activity Rate" (Spring 2008) **Iranian Journal of Biomedical Engineering**, Vol. 2, Number 1, pp. 39-46.

Ahmadvouy 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" (2010) **Iranian Journal of Chemistry and Chemical Engineering (IJCCE)** Vol. 3, 29, pp. 101-109.

Ramazani A., Ahmadvouy Darab M., **Ghalichi F.** and Kamyabi A. "Simulation of Three Dimensional Pulsatile Blood Flow in Aorta-Coronary Bypass" (Spring 2010) **Iranian Journal of Biomedical Engineering**, Vol. 4, Number 1, pp. 65-72.

Khalessi H., Oscuii H.N., and **Ghalichi F.** "Comparison of Stress Distribution Patterns in Elastic Artery Remodeling using Fluid-Solid Interactions" (Spring 2011) **Iranian Journal of Biomedical Engineering**, Vol. 5, Number 1, pp. 67-78.

Hassani H., **Ghalichi F.**, Oscuii H.N, Farhoudi M. and Tarzamani M.K. "Comparison of Blood Flow Velocity through the Internal Carotid Artery Based on Doppler Ultrasound and Numerical Simulation" (September 2012) **Australian Physical & Engineering Sciences in Medicine**, 35(4):413-22. (ISI)

Hajizadeh M., **Ghalichi F.**, Mirzakouchaki B. and Shahrbaaf Sh. "Patterns of Stress Distribution in Different Bracket-Adhesive-Tooth Systems due to Debonding Load Application" (2014) **Orthodontic Waves**, 73, p. 8-16.

Bahrami B., Shahrbaaf Sh., Mirzakouchaki B., **Ghalichi F.**, Ashtiani M. and Martin N. "Effect of Surface Treatment on Stress Distribution in Immediately Loaded Dental Implants- A 3D Finite Element Analysis" (April 2014) **Dental Materials**, Volume 30, Issue 4, p. 89-97. (ISI)

Tarahhomi Ardakani M., Oscuii H.N. and **Ghalichi F.** "The Influence of using the Needle Adaptor to Reduce the Biomechanical Risk factors within Hemodialysis Arteriovenous Grafts" (June 2014) **Journal of Mechanics in Medicine and Biology, Volume 14, Issue 03. (ISI)**

Sarmast M., Niroomand-Oscuii H., **Ghalichi F.** and Samiei E. "Evaluation of the hemodynamics in straight 6-mm and tapered 6- to 8-mm grafts as upper arm hemodialysis vascular access" (2014) **Med Biol Eng Comput, 52:797–811. (ISI)**

Hajizadeh M., Hashemi Oskouei A., **Ghalichi F.**, Tabatabai Ghomshe F., Razi M., and Sole G. "Kinematic differences in participants with ACL deficient knees during stair ascending with different heights" (2015) **Iranian Journal of Biomedical Engineering, Vol. 9, pp. 17-31. [www.ijbme.org](http://www.ijbme.org). (ISI)**

Ashrafi M, **Ghalichi F.**, and Mirzakouchaki B. "Numerical Simulation of Stress Distribution in Periodontal Ligament of Incisor and Premolar" (2015) **Iranian Journal of Biomedical Engineering, Vol. 9, pp. 49-57. [www.ijbme.org](http://www.ijbme.org)**

Nammakie E., Niroomand-Oscuii H., **Ghalichi F.**, and Koochaki M. "Numerical Study of the Performance of a Blood Pump by Comparison of Three Different Impeller Blade Geometries to Improve Efficiency and Decrease Blood Damage" (2015) **Iranian Journal of Biomedical Engineering, Vol. 9, pp. 133-142. [www.ijbme.org](http://www.ijbme.org)**

Tabe R. , **Ghalichi F.**, Hossainpour S. and Ghasemzadeh K. "Laminar-to-Turbulence and Relaminarization Zones detection by Simulation of Low Reynolds Number Turbulent Blood Flow in Large Stenosed Arteries" (2016) **Accepted for publication in Bio-Medical Materials and Engineering An International Journal, Doi: 10.3233/BME-161574, IOS Press. (ISI)**

Hajizadeh M., Hashemi Oskouei A., **Ghalichi F.**, and Sole G. "Knee kinematics and joint moments during stair negotiation in participants with anterior cruciate ligament deficiency and reconstruction: A systematic review and meta-analysis" (2016) **American Academy of Physical Medicine and Rehabilitation (AAPM&R) Jun;8(6): 563-579. e1. doi: 10.1016/j.pmrj.2016.01.014. Epub 2016 Feb 9. (ISI)**

Nammakie E., Niroomand-Oscuii H., Koochaki M., and **Ghalichi F.** "Computational Fluid Dynamics-based Study of Possibility of Generating Pulsatile Blood Flow via a Continuous-Flow VAD" (2016) **Medical & Biological Engineering & Computing ISSN 0140-0118, Journal of the International Federation for Medical and Biological Engineering, Elsevier, doi: 10.1007/s11517-016-1523-8. (ISI)**



Jokar A., Niroomand-Oscuii H., and **Ghalichi F.** “Numerical simulation of osteocyte cell in response to directional mechanical loadings and mechanotransduction analysis: Considering lacunar–canalicular interstitial fluid flow” (Sep 2016) **Computer Methods and Programs in Biomedicine**, Elsevier, Vol. 133 pp: 133–141. doi: 10.1016/j.cmpb.2016.05.019 (ISI)

Kouh Soltani M., Khanmohammadi S., and **Ghalichi F.** “A Three-Dimensional Shape-Based Force and Stiffness-Sensing Platform for Tendon-Driven Catheters” (2016) **Sensors**, 16 (7), 990; doi: 10.3390/s16070990. (ISI)

Meghdadi N., Soltani M., Niroomand-Oscuii H., and **Ghalichi F.** "Image Based Modeling of Tumor Growth" (Sep 2016) **Australas Phys Eng Sci Med.**; 39(3):601-13. doi: 10.1007/s13246-016-0475-5. (ISI)

Nammakie E., Niroomand-Oscuii H., Koochaki M., and **Ghalichi F.** “Computational fluid dynamics-based study of possibility of generating pulsatile blood flow via a continuous-flow VAD” (Jan 2017) **Med Biol Eng Comput.**; 55(1):167-178 doi: 10.1007/s11517-016-1523-8

Kouh Soltani M., Khanmohammadi S., and **Ghalichi F.**, and Farrokh Janabi-Sharifi "A soft robotics nonlinear hybrid position/force control for tendon driven catheters" (Feb 2017) **International Journal of Control, Automation and Systems** , Volume 15, Issue 1, pp 54–63, doi: 10.1007/s12555-016-0461-4. (ISI)

Meghdadi N., Niroomand-Oscuii H., Soltani M., **Ghalichi F.**, and Pourgolmohammad M. "Brain Tumor Growth Simulation: Model Validation through Uncertainty Quantification" **Int J Syst Assur Eng Manag** (Feb 2017) doi: 10.1007/s13198-017-0577-9. (ISI)

Hajizadeh M. , Hashemi Oskouei A., **Ghalichi F.**, and Sole G. "Intra-Session Reliability and Repeatability of Knee Kinematics in Subjects with ACL Deficiency during Stair Ascent" (April 2017) **Journal of Mechanics in Medicine and Biology** ; Vol. 17, No. 4 e1. doi: 10.1142/S0219519417500920. (ISI)

Karami F., Hossainpour S., and **Ghalichi F.** “Numerical Simulation of Low Density Lipoprotein Mass Transport in Human Arterial Stenosis- Calculation of the Filtration Velocity” **Bio-Medical Materials and Engineering An International Journal**, Vol. 29, no. 1, pp. 95-108 (11 December 2017), Doi: 10.3233/BME-171715, IOS Press. (ISI)

Jahed M., **Ghalichi F.**, and Farhoudi M. “Fluid-Structure Interaction of Patient-Specific Circle of Willis with Aneurysm: Investigation of Hemodynamic Parameters” **Bio-Medical Materials and Engineering An International Journal**, Vol. 29, no. 3, pp. 357-368, (21 March 2018), doi: 10.3233/BME-181732, IOS Press. (ISI)

Attaran S.H., Niroomand-Oscuii H., and **Ghalichi F.**, “A novel, simple 3D/2D outflow boundary model for blood flow simulations in compliant arteries” **Computers and Fluids**, (Sep 2018) Volume 174, 30 September 2018, Pages 229-240, doi: 10.1016/j.compfluid.2018.08.006.

Ashrafi M., **Ghalichi F.**, Mirzakouchaki B., Arruga A., and Doblare M. “Finite element comparison of the effect of absorbers' design in the surrounding bone of dental implants” **International Journal for Numerical Methods in Biomedical Engineering**. (05 November 2019), doi: org/10.1002/cnm.3270 (ISI)

Ashrafi M., **Ghalichi F.**, Mirzakouchaki B. and Zoljanahi Oskui I. “Numerical Simulation of Hydro-mechanical Coupling of Periodontal Ligament” **Proceedings of the Institution of Mechanical Engineers, Part H: The Journal of Engineering in Medicine**, (November 13, 2019) Volume: 234 issue: 2, page(s): 171-178 doi.org/10.1177/0954411919887071

**Ghalichi F.**, Behnia S., Mottaghi F., and Yahyavi M. “Numerical Study on a Polymer-Shelled Microbubble Submerged in Soft Tissue” **Physica Scripta** (2020) doi.org/10.1088/1402-4896/aba0f9

Ashrafi M., **Ghalichi F.**, Mirzakouchaki B., and Doblare M. “On the effect of antiresorptive drugs on the bone remodeling of the mandible after dental implantation: a mathematical model” **Scientific Reports** (02 Feb 2021), 11, Article number 2792.

Kargarnejad S., **Ghalichi F.**, Pourgol-Mohammad M., Zoljanahi Oskui I., and Garajei A. “Biomechanical Evaluation of Reconstructed Extensive Mandibular Defects by Different Models Using Finite Element Method” **Journal of Mechanics in Medicine and Biology** (2020); Vol. 20, No. 08 e1. doi.org/10.1142/S0219519420500530. (ISI)

Kargarnejad S., **Ghalichi F.**, Pourgol-Mohammad M., Zoljanahi Oskui I., and Garajei A., A., 2020. “Evaluation of failure of a titanium conventional plate in mandibular reconstruction and improve the performance with fibula free flap”. **Journal of Craniomaxillofacial Research**, (Spring 2020) Vol. 7 No. 2, pp. 70-78.

Kargarnejad, S., **Ghalichi, F.**, Mohammad, M.P. and Garajei, A.”Improving the biomechanical performance of screws fixation in a customized mandibular reconstruction prosthesis based on reliability measure”. **Journal of Craniomaxillofacial Research**. (Autumn 2020) Vol. 7 No. 4, pp. 195-202

Kargarnejad, S., **Ghalichi, F.**, Mohammad, M.P. and Garajei, A.” Mandibular reconstruction system reliability analysis using probabilistic finite element method” **Computer Methods in Biomechanics and Biomedical Engineering**. (Autumn 2021, Vol. 24, No. 13, pp. 1437–1449. <https://doi.org/10.1080/10255842.2021.1892660>

Alinezhad L., **Ghalichi, F.**, Ahmadlouydarab M., and Chenaghrou M. “Left Atrial Appendage shape impacts on the left atrial flow hemodynamics: A numerical study” **Computer Methods and Programs in Biomedicine**. January 2022, Vol. 213.

Sarrafzadeh-Ghadimi N., **Ghalichi, F.**, Niroomand-Oscuii H., and Fatourae N. “Design of an aortic polymeric valve with asymmetric leaflets and evaluation of its performance by finite element method” **Computers in Biology and Medicine**. June 2022, Vol. 145.

Nooraeen A. , **Ghalichi F.**, Taghizadeh H., and Guidoin R. “Probing the possibility of lesion formation/progression in vicinity of a primary atherosclerotic plaque: A fluid–solid interaction study and angiographic evidences” **Int J Numer Meth Biomed Engng** Accepted: 14 April 2022. <https://DOI: 10.1002/cnm.3605>

Seyed Sadjad Abedi-Shahri, Farzan Ghalichi, and Iman Zoljanahi Oskui “A scaled boundary finite element formulation for solving plane-strain viscoelastic problems” **European Journal of Mechanics / A Solids** (2022) 104755.

Minou Kouh Soltani, Sohrab Khanmohammadi, Farzan Ghalichi and, Farrokh Janabi-Sharifi “Autonomous Three-Dimensional Sensor-Assisted Hybrid Force/Position Control for Tendon-Driven Catheters” **Eur. Phys. J. Plus** (2023) 138:504

## 11. Published Conference Papers:

*The Canadian Biomaterial Society: Ottawa, Canada, 1995.* ”Fluid properties in a severe arterial stenosis; Part (1): Steady laminar flow”.

*The Canadian Medical and Biological Engineering Society: Charlottetown, Prince Edward Island, Canada, 26-29-June, 1996.* ”Hemodynamic performance of polyester protein-impregnated arterial prostheses after implantation: A plea for fast resorption of the coating”.

*Journee Scientifique de l’Hopital Saint-Francois d’Assise: Quebec, 22 March, 1996.* ”Hemodynamic performance of polyester protein-impregnated arterial prostheses after implantation: A plea for fast resorption of the coating”. (Winner of second price of competition).

*The Canadian Medical and Biological Engineering Society: Toronto, Ontario,*

*Canada, 28-31 May, 1997.* "Flow recirculation and turbulence downstream of an axisymmetric arterial stenosis: a numerical approach".

*16<sup>th</sup> Canadian Congress of Applied Mechanics (CANCAM): Quebec, Canada, 01-05 June, 1997.* "A low-Reynolds number turbulence modeling of blood flow in arterial stenoses".

*Journee Scientifique de departement de chirurgie : Universite Laval, 9 May, 1997.* "Etude numerique de l'effet d'une stenose sur le comportement hemodynamique des carotides".

*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".

*Fluent User's Group Meeting: Burlington, U.S.A., 16-18 June 1998:*"Numerical simulation of physiological pulsatile turbulent flow in a stenosed carotid artery bifurcation".

*Third World Congress of Biomechanics: Sapporo, Hokaido, Japan, 2-8 August 1998.* "Low Reynolds turbulence modeling of blood flow in arterial stenosis".

*Ninth conference of Iranian Biomedical Engineering: Tehran, Iran, 1-3 March, 1999.* "Numerical simulation of physiological pulsatile flow in a stenosed artery".

*Fourth World Congress of Biomechanics: Calgary, Canada, 4-9 August 2002.* "Simulation Of Ultrasonic Waves Effects On Cervix Cancerous Tissues".

*First International Meeting On Applied Physics, APHYS2003: Badajoz, Spain, 13-18 October 2003.* "Calculations For Ultrasonic Transducer Design and Temperature Tracking For Hyperthermia In Cervical Cancer".

*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".

*28<sup>th</sup> 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".

*Eleventh Iranian Conference on Biomedical Engineering: AmirKabir University, TehranIran, 17-18 Feb., 2004.* "Three Dimensional Pulsatile Blood Flow Simulation in Aorta Coronary Bypasses".

*Eleventh Iranian Conference on Biomedical Engineering: AmirKabir University, Tehran, Iran, 17-18 Feb., 2004.* "Comparing of Aorta-Coronary and Coronary-Coronary Bypasses Blood Flow fields".

*Ninth National Congress of Iranian Chemical Engineering: University of Science and Technology, Tehran, Iran, 24-25 Nov., 2004.* "The Effect of different Degree of

Stenosis and Anastomosis Angles on Flow Field in Coronary-Coronary Bypass”.

Ebadi A., **F. Ghalichi**, *10<sup>th</sup> National Congress of Iranian Chemical Engineering: University of Sistan and Blouchestan, Zahedan, Iran, 15-16 Nov., 2005*. “Numerical Blood Flow Simulation in a series of Coronary Artery Stenoses”.

*Tenth National Congress of Iranian Chemical Engineering: University of Sistan and Blouchestan, Zahedan, Iran, 15-16 Nov., 2005*. “Effects of Variable Stenosis Percentages and Bypass Graft Angles on the Temporal Shear Stress Gradients in the Aorto-Coronary Bypass

*Euroson2005: Geneva, Swiss, 25-28 Sep, 2005*. “Ultrasound Thermo-therapy of Breast: Theoretical Design of the Transducer and Numerical Simulation of the Procedure”.

*Euroson2005: Geneva, Swiss, 25-28 Sep, 2005*. “Theoretical Design of a Fixed-Focused Transducer for the Ultrasound Thermo-therapy of Brain”.

*Twelfth Iranian Conference on Biomedical Engineering: Sahand University of Technology, Tabriz, Iran, 16-18 Nov., 2005*. “Nonlinear Time Series Analysis: Application to Cardiac "Diseases”.

*5<sup>th</sup> World Congress of Biomechanics: Munich, Germany, 29 July- 4 August 2006*. “Quantitative Analysis Evaluation of Flow Characteristics in Elastic Artery with Fluid-Structure Interaction Model Using Real Pulsatile Pressure Waveforms”.

*5<sup>th</sup> World Congress of Biomechanics: Munich, Germany, 29 July- 4 August 2006*. “Finite Element Simulation of Ultrasound Thermo-: Theoretical Consideration for Reducing the General Temperatures at the Post-Target Bone”.

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, 2006*. "

A. Vahdati and **F. Ghalichi**, "Computer simulation of a strain energy density based bone adaptation theory and some related applications using MATLAB". *24<sup>th</sup> Annual Houston Conference on Biomedical Engineering Research, 8-9 February 2007, University Hilton hotel and conference center*.

A. Vahdati and **F. Ghalichi**, "Computer simulation and applications of a versatile mechanistic bone adaptation theory". *13<sup>th</sup> Iranian Conference on Biomedical Engineering (ICBME13), Sharif University, Iran*.

A. Vahdati, **F. Ghalichi**, G. Rouhi and M. Tahani, "Computer simulation of trabecular bone remodeling: role of cellular accommodation in time-dependent simulations". *17<sup>th</sup> International Conference on Computer Methods in Mechanics CMM, June 19-22, 2007, Lodz-Spala, Poland*.

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 16-17, 2008*,

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M. Ramazani, **Ghalichi** and H.N. Oscuii "Simulation of Movement and Deformation of the Red Blood Cell through a Capillary Using Fluid-Structure Interaction method" *ISB, 3-7 July 2011, Brussels, Belgium.*

B. Bahrami, **F. Ghalichi**, B. Mirzakouchaki, M. Ashtiani and A. Margoub "Finite Element Analysis of Stress Distribution in Immediately Loaded Dental Implant" *The 19<sup>th</sup> Iranian Conference on Biomedical Engineering (ICBME) December 2012, IEEE Conference Transaction.*

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## 11. Supervised M.Sc Students:

1. Majid Naderi
2. Mahdi Baloo
3. MirzaAgha
4. Ali Vahdati (*He has finished his Ph.D degree in USA.*)
5. Mojtaba Sanobari
6. Houman Zahedmanesh (*He has finished his Ph.D degree in Ireland.*)
7. Javad Hazrati (*He has finished his Ph.D degree in Netherland (Holland).*)
8. Mehrdad Mottaghi (*He continues his study towards Ph.D degree in Canada.*)
9. Hamed Avari (*He has finished his Ph.D degree in Canada.*)
10. Maryam Hajizadeh (*He continues his study towards Ph.D degree in Iran.*)
11. Hajar Hassani (*He continues his study towards Ph.D degree in Iran.*)
12. Arsalan Marghoub (*He continues his study in UK.*)
13. Mohammad Haddadi (*He has finished his Ph.D degree in France.*)
14. Majid Ahmadloui Darab (*He has finished his Ph.D degree in UBC of Canada.*)
15. Massoud Ramazani
16. Mohammad Sarmast
17. Mostafa Shahir
18. Mohsen Ghassemi
19. Sohrab ValadBeighi
20. Hamed Motavallibashi
21. Farshad Mottaghi
22. Arash Sedghi

23. AbdolKhaleg Khaledi  
24. Vahid Nemati  
25. Asghar TalebPour  
26. Mohsen Tarahhomi  
27. Mohammad Nikdast  
28. Mehran Ashrafi  
29. Mostafa Lashghari  
30. Fatemeh Karami  
31. Babak Bahrami  
32. Erfan Namaki  
33. Amin Jokar  
34. Negar Ardabilchi  
35. Hanieh Jamali  
36. Mostafa Bagheri  
37. Amin Yavari  
38. Mahsa Jahed (*She continues her studies towards Ph.D degree in Canada.*)

39. Farzaneh Gholamian  
40. Shadi Nabavi  
41. Faezeh Yaghoobian  
42. Lida Alinejad (*She continues her studies towards Ph.D degree in Italy.*)  
43. Hossein Barzegari

## 12. Supervised Ph.D Thesis:

1. Hanieh Niroumand Oskouie (as co-supervisor)  
(*Now, she is a full professor at Sahand University of Technology, Tabriz, Iran.*)
2. Maryam Hajizadeh (*She has finished her PhD from Sahand University of Technology in 2016, Tabriz, Iran.*)
3. Minoos Kousoltani (as co-supervisor)  
(*She has finished her PhD from University of Tabriz in 2016, Tabriz, Iran. Now, She is an assistant professor at University of Tabriz, Tabriz, Iran*)
4. Arash Sedghi (*Under supervision and Not finished yet*)
5. Mehran Ashrafi (*He has finished his PhD from Sahand University of Technology in April 2020, Tabriz, Iran.*)
6. Sahand Kargarnegad (*He has finished his PhD from Sahand University of Technology in 21 February 2021, Tabriz, Iran.*)
7. Nima SarrafZadeh (*He has finished his PhD from Sahand University of Technology, Tabriz, Iran.*)
8. Sajjad Abedi (*Under supervision and not finished yet*)
9. Faezeh Yaghoobian (*Under supervision and not finished yet*)
10. Mohammad Nour Aeen (*Under supervision and not finished yet*)

**11. Behrouz Jafarzadeh (as co-supervisor)**

*(Under supervision and not finished yet)*

**12. Seyyed Hamidreza Attaran (as co-supervisor)** *(He has finished his PhD from Sahand University of Technology in 2021, Tabriz, Iran.)*

**13. Editing:**

**13.1. Introduction to Medical Imaging Systems** *(in persian)*

**13.2. Dental Biomechanics** *(in persian)*

**14. Book Translation from English to Persian:**

**14.1 Biocompatibility**

**14.2 Applied Biofluid Mechanics**

**15. Administration**

**15.1 Vice Dean in education affairs, Sahand University of Technology, 1999-2012**

**15.2 Board of Directors of Iranian Biomedical Engineering Association, 2000-2016**

**15.3 Member of the editorial board of the Iranian Biomedical Engineering Journal**

**15.4 Invited professor in Ljubljana university, Slovenia, 2019**

