

# Dr. BEHROOZ LOTFI

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## EXPERIENCE

- **1997–Now:** Full time Assistant Professor  
Mechanical Department of Islamic Azad University, Mashhad, Iran  
**Responsibilities:**  
Teaching for under-graduate: Dynamics, Theory of modern control, Theory of measurement  
Teaching for post-graduate: System Dynamics, Advanced Dynamics, Advanced Engineering Mathematics, Mechatronics  
Supervising of under-graduate and post-graduate students for their theses  
Manager of robotics Lab.  
Manager of machinery and control Lab.
- **2017-Now:** Director of Technotive limited.  
**Responsibilities:**  
Lead team of engineers.  
Monitoring physical properties through each step and adjusting recipe and process as needed.  
Final approval of Engineering design concepts and production drawings.  
Overall responsibility for technical solutions at Corporate Engineering level.
- **2016:** Research fellow at AUT (Sabbatical leave from Azad university)  
Mechanical Engineering, Auckland University of Technology, New Zealand  
**Project:** Path planning for Autonomous Unmanned Aerial Vehicles (UAV)  
**Responsibilities:**  
Involving in development and testing of new wireless accelerometer sensor products  
Developing an approach for velocity and position estimation through acceleration measurements
- **2014:** Research fellow at AUT (Sabbatical leave from Azad university)  
Mechanical Engineering, Auckland University of Technology, New Zealand  
**Project:** Development of an Autonomous Unmanned Aerial Vehicle (UAV) System for Ecological Surveys  
**Responsibilities:**  
Modelling and control of quadrotor manoeuvres with variations of centre of gravity
- **2013:** Research fellow at AUT (Sabbatical leave from Azad university)  
Mechanical Engineering, Auckland University of Technology, New Zealand  
**Project:** Design a novel ocean wave energy converter using a parallel mechanism  
**Responsibilities:**  
Modelling and control of quadrotor manoeuvres with variations of centre of gravity
- **2011-2012:** Research associate  
Mechanical Engineering (biomechanics)  
Nanyang technological university, Singapore  
**Projects:**  
1) Biomimetic Bat Micro-Electro-Mechanical-Systems Cochlea  
2) Design and fabricating of a biomedical acoustic micro-robot

- **2001-2007:** Adjunct Lecturer  
The Institute for Energy and Hydro Technology, Mashhad, Iran  
**Responsibilities:**  
Teaching: Dynamics and Physics
- **2000–2005:** Technical Consultant  
Barsava Mechatronics Consulting Company, Mashhad, Iran  
**Responsibilities:**  
Consultant and Research in modelling of automatic control systems  
Developing and working with rapid prototypes for testing and part verification to meet targets.
- **1995–1997:** Technical Specialist  
Khodro Andishan Pars Consulting Company (Vehicle Design Company), Tehran, Iran  
**Responsibilities:**  
Research in modelling and control of vehicle systems  
Overall responsibility for technical solutions at Corporate Engineering level.

## **EDUCATION**

- **PhD:** Mechanical Engineering (Mechatronics)  
Division of Mechatronics and Design, Nanyang technological university, Singapore (2007-2011)  
**PhD Thesis:** Enhancement of computer aided manufacturing systems using analytical curves
- **M.Sc.:** Mechanical Engineering (Applied Mechanics)  
Amirkabir University of Technology, Mechanical Department, Teheran, Iran 1997  
**M.Sc. Thesis:** Nonlinear analysis of the suspension mechanism
- **B.Sc. :** Mechanical Engineering (Solid Mechanics) with High Honors  
Amirkabir University of Technology, Mechanical Department, Teheran, Iran 1995  
**B.Sc. Thesis:** Design and stability analysis of a new power steering system

## **TECHNICAL SKILL**

- Computer Languages: MATLAB, Basic, FORTRAN, C++
- Scientific Applications: Labview, COMSOL, MATLAB, Proteus, Maple
- Technical Drawing: Solidworks, Autodesk Inventor, AutoCAD.

## **PERSONAL SKILLS**

- Motivating and leading other people
- Creativity
- Ability to work under pressure
- Dependability
- Problem-solving
- Adaptability

## **AWARDS AND HONORS**

- Nanyang technological university (Singapore) PhD scholarship (2007)
- Iran's Ministry of Science award for best book of the season for "Design Principles of MEMS and NEMS" ( Winter 2007)

- Gold medal , Dr. Tanbakuchi award for best thesis supervision, Ferdowsi University of Mashhad (2003)
- Gold medal , Dr. Tanbakuchi award for best thesis supervision, Ferdowsi University of Mashhad (2001)
- Robocup award (1998,1999,2000) (Robotics team leader)
- Best Young Scholar, Mechanical department of Amirkabir University (1995)
- Best Young Scholar, Mechanical department of Amirkabir university (1991)

### **MEMBERSHIP OF PROFESSIONAL INSTITUTIONS**

- Iranian Society of Mechanical Engineers
- Referee committee of Olympiad of Inventors, originators and innovators (Iran)
- Institute of Electrical and Electronics Engineers (IEEE)
- Referee of Journal of Applied Mechanics
- Referee of Journal of Measurement

### **PUBLICATIONS LIST**

#### **BOOK**

- **B. Lotfi**, V.parvaneh ,”Design Principles of MEMS and NEMS” , Sokhan Gostar mashhad Iran, 452 pages (in Persian) (2007)

#### **ARTICLES**

1. **B. Lotfi**, L. Huang, An Approach for velocity and position estimation through acceleration measurements, *Measurements* 90(2016) 242-249
2. M Goharimanesh, AA Akbari, **B.Lotfi**, On using fuzzy reinforcement learning to control the cancer cells , *International Nastaran Cancer Symposium* (2015)
3. **B. Lotfi**, M. Goharimanesh, L. Huang Investigation on changing of centre of Gravity in quadrotor Manoeuvres, Nagoya Institute of Technology, Nagoya, Japan, March 6-8, (2015)
4. **B. Lotfi**, L. Huang A Novel Wave Energy Converter Using The Stewart Platform, *Journal of Green Engineering*, 4(1) (2014) 33-48.
5. **B Lotfi**, O Mahian, Why double-blind review is preferable for scholarly journals, *Journal of Korean medical science* 29 (10) (2014)
6. **B. Lotfi**, Z.W. Zhong, L.P. Khoo, Path generation based on a rotating coordinate system, *ICMEE*, Kyoto, Japan. August 1-3, (2010) V1-232-236.
7. **B. Lotfi**, Z.W. Zhong, and L.P. Khoo, A novel algorithm to generate backlash-free motions. *Mechanism and Machine Theory*, 45(8) (2010) 1171-1184.
8. **B. Lotfi**, Z.W. Zhong, L.P. Khoo, Prediction of cutting forces along Pythagorean-hodograph curves, *International Journal of Advanced Manufacturing Technology* 43 (9-10) (2009) 872-882.
9. **B. Lotfi**, Z.W. Zhong, L.P. Khoo, Variable feed rates and variable machine forces for a constant material removal rate and constant cutting force along Pythagorean-hodograph curves, *International Journal of Advanced Manufacturing Technology* 40 (1-2) (2009), 171–178.
10. **B. Lotfi**, O. Jahanian, Gh. Karimi, Statistical model of a 2D straight leg passive dynamic walker machine, *AMSE*, Kuala Lumpur, Malaysia, April 3-5, (2006)
11. **B. Lotfi**, M. S. Gholami, H. Baradarannia, Optimization of passive vibration systems by genetic algorithm, *AMSE Best of Book* (2006), 58-68.
12. **B. Lotfi**, M. R. Torshizian, Observer-Based Fault Detection Filter Design and Its Application in Industry, *ICRAMME*, , Kuala Lumpur, Malaysia, May, (2005)

13. S. Taheri, B. Hamed, **B. Lotfi**, "Optimization of Vehicle Suspension using BOX's Method", Presented at the Iranian Society of Mechanical Engineers Fifth Spring Annual Meeting (ISME-SAM), Tabriz, Iran, 1997.

### **INDUSTRIAL REPORTS**

1. **B.Lotfi**, N. Mirblouki "Design and Fabricating of a special Electric Ambulance", Emam Reza hospital, Mashhad, Iran
2. F, Talebian, **B. Lotfi**, "Optimization of a Heat Exchanger and Condenser for Laboratory usage ", Ministry of Heavy Industries
3. **B. Lotfi**, A. horufi, "Optimization and Fabricating of a New Air Conditioner ", Ministry of Heavy Industries
4. **B. Lotfi** "Design and Fabrication of a CD Changer Robot", Mechanical Department of Islamic Azad University, Mashhad, Iran
5. **B. Lotfi**, "Crack detection in sugar centrifugal machine using Ultrasonic Techniques", Ministry of Heavy Industries
6. **B. Lotfi**, S. Taheri, "A Ten DOF Simulation of Vehicle Package", SAPCO, Tehran, Iran,
7. S. Taheri, **B.Lotfi**, K.moula, "Design and Fabricating a New Power Steering System", SAPCO, Tehran, Iran.