

## Curriculum Vitae

Last Name: **Miripour Fard**

First Name: **Behnam**

Assistant Professor of Robotics Eng. Dept.  
Hamedan University of Technology (HUT)  
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## Personal Data

Date of Birth: July 11<sup>th</sup>, 1981

Place of Birth: Talesh, Province of Guilan, Iran.

Marital Status: Single

## Education

- Ph. D. Mechanical Engineering, the University of Guilan, March. 2013

Thesis title:

***Human-Inspired Motion Generation and Control of Biped Robots under External Perturbations***

Supervisor: Prof. A. Bagheri

Advisor: Prof. N. Nariman-zadeh

- Visiting Ph. D. Student at Robotics Institute of Carnegie Mellon University, USA. 2012.

- M. Sc. Mechanical engineering, Bu-Ali Sina University, 2007

Thesis title:

***Experimental and Theoretical Investigation of Human Postural Response to Tilting of its Base of Support in the Sagittal Plane***

Supervisors: Prof. D. Naderi & Prof. M. Sadeghi-mehr

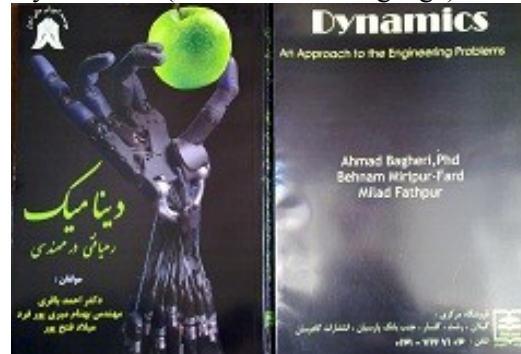
- B. Sc. Mechanical Engineering, the University of Guilan, 2004, Thesis title:

***Design, Fabrication and Experimentation of Rotating Helical Pump; a Gas-Liquid Transporter***

## Publications

### BOOKS

1. Climbing and Walking Robots", B. Miripour Fard (Ed.). ISBN 978-953-307-030-8, (2010), Published by INTECH.
2. Dynamics: An Engineering Approach, A. Bagheri, B. Miripour Fard, M. Fathpour, ISBN 978-600-91-625-3-6, (2011) Published by Kadusan (in the Persian language).



### BOOK CHAPTER

1. A. Bagheri, B. Miripour Fard, P. N. Mousavi, "Mathematical Modeling and Simulation of Combined Trajectory Paths of a Seven Link Biped Robot", In: Climbing and Walking Robots, Behnam Miripour, (Ed.), ISBN 978-953-307-030-8, 2010.

### JOURNAL PAPERS

1. B. Miripour Fard, A. Bagheri, N. Nariman-zadeh, "Limit Cycle Walker Push Recovery Based on a Receding Horizon Control Scheme", Journal of Systems and Control Engineering pp:1-13. Vol.226 (7), 2012. (ISI, SAGE)
2. D. Naderi, M. Sadeghimehr, B. Miripour Fard, "Optimization-Based Dynamic Prediction of Human Postural Response under Tilting of Base of Support", International Journal of Humanoid Robotics, Vol. 9, No. 2, 2012.(ISI, SAGE)
3. D. Naderi, B. Miripour Fard, M. Sadeghimehr , "Optimal prediction of human postural response under anterior-posterior platform tilting", Journal of Communications in Nonlinear Science and Numerical Simulation,pp:99-108, Vol. 18 (1), 2013. (ISI, ELSEVIER)
4. M. S. Mohseni, B. Miripour Fard, A. Zajkani "Experimental Study of Pumping Performance of Rotating Helical Pump as a Gas-liquid Transporter" Journal of Mechanical Engineering Science (IMechE), Vol. 224,pp:3201-3206, 2010. (ISI, SAGE)
5. B. Miripour Fard, A. Bagheri, N. Nariman-zadeh, "Hybrid Dynamical Modeling and Control of an Under-Actuated Limit Cycle Walker Subjected to Impulsive External Disturbances", Journal of Control, Vol. 6, No 3, 2012, pp:71-80. (ISC)
6. B. Miripour Fard, A. Bagheri b, A. S Khoskbijari, "Receding Horizon Based Control of Disturbed Upright Balance with Consideration of Foot Tilting, Accepted for publication in International journal of engineering (IJE). (ISC)
7. D. Naderi, M. Sadeghi-Mehr, N.Farahpour and B. Miripour Fard, "Experimental and Theoretical Investigation of Human Stability under Tilting Base Plate in the Sagittal Plane", Iranian Journal of Biomedical Engineering Vol. 2 (2) pp: 85-94, 2008.

## CONFERENCE PAPERS

1. A. Bagheri, B. Miripour Fard, "Implementation of the Model Predictive Control for On-line Trajectory Planning of a Walking Robot Subjected to External Disturbances", IEEE International Symposium on Innovations in Intelligent Systems and Applications, Istanbul, TURKEY, INISTA 2011.
2. B. Miripour Fard, A. Bagheri, N. Nariman-zadeh, "Push Recovery of Three Dimensional Underactuated Walking Based on Hybrid Zero Dynamics" ICROM 2013, Tehran, Iran.
3. B. Miripour Fard, B. Shalchi, "Online Optimal Gait Synthesis For a Biped Robot Using Gmdh Method", 20th Annual International Iranian Mechanical Engineering Conference, ISME2012, 15-17 May 2012, Shiraz, Iran. (In the Persian language)
4. A. Bagheri, M. Taherkhorsandi, B. Miripour Fard, "Optimal Tracking Control of a Biped Robot Walking in the Lateral Plane", IEEE International Symposium on Innovations in Intelligent Systems and Applications, Istanbul, TURKEY, INISTA 2011.
5. B. Miripour Fard, D. Naderi, M. Sadeghimehr, "Design of nonlinear controller for humanoid robot to perform human observed strategies against disturbances", 18th Annual (International), Conference on Mechanical Engineering, ISME2010, 11-13 May 2010, Tehran, Iran. (In the Persian language)
6. B. Miripour Fard, D. Naderi, M. Sadeghimehr, "Experimentally Comparison of postural stability of athletic and non-athletic persons using inverse dynamic model of human body", 17th Annual (International), Conference on Mechanical Engineering, ISME2009, 15-17 May 2009, Tehran, Iran. (In the Persian language)
7. F. Vesali, A. ghavamian, A. Ghazi, B. Miripour Fard, "Design of spindle like clutch and comparison of its performance with usual clutches" 16th Annual (International), Conference on Mechanical Engineering, ISME2009, 13-15 May 2008, Kerman, Iran. (In the Persian language)
8. D. Naderi, M. Sadeghimehr, B. Miripour Fard, "Development of an objective function for estimation of human stability criteria under support perturbations" 14th Annual, Conference on Biomedical Engineering, ICBME2008, 13-14 February 2008, Tehran, Iran. (In the Persian language)
9. B. Miripour Fard, D. Naderi, M. Sadeghimehr, "Biomechanical modeling of human body and optimization of its dynamic balance under tilting of support plate" 15th Annual (International), Conference on Mechanical Engineering, ISME2008, 15-17 May 2007, Tehran, Iran. (In the Persian language)
10. A. Bagheri, B. Miripour Fard, "Biomechanical Modeling and Simulation of Squat Exercise and its Injuries", 10th annual symposium of university of Guilan, February 2010, Rasht Iran. (In the Persian language)
11. Alitavoli, M. ; Taherkhorsandi, M. ; Mahmoodabadi, M. J. ; Bagheri, Ahmad ; Miripour-Fard, B. "Pareto design of sliding-mode tracking control of a biped robot with aid of an innovative particle swarm optimization" IEEE International Symposium on Innovations in Intelligent Systems and Applications, Istanbul, TURKEY, INISTA 2012

## Research Experience

- Research Assistant (since 2008) at:
  - The University of Guilan, Rasht-Iran
  - Takestan branch of The Islamic Azad University, Takestan- Iran

I have supervised some students in B.Sc. degree who worked on:

Design of Machine Elements, Automatic Control, Robotics

I have advised some students in M.Sc. degree who worked on:

Stability of Biped Robots, Nonlinear and Optimal Control of Humanoids,  
Stability of Under Constrained Cable Robots

## Skills

- Fluent in Farsi, Turkish and English
- Good work Experience with Mathematical and Engineering software: MATLAB, MAPLE, ADAMS, VisualNastran, SolidWorks, Mechanical Desktop

## Honors & Awards & Membership

- Member of Iranian Inventors Association, 2007-present
- Member of Iranian Elite Foundation, may 2008 to present
- Ranked 1<sup>st</sup> in the university of Guilan Mechanical Engineering Ph.D. Entrance Exam
- Member of American Society of Mechanical Engineering (ASME)

## Interests and Activities

Mountain climbing, traveling, reading (Literature and philosophy) and playing computer games are my best favorites. I also take pleasure in listening to different types of music. Among sports I prefer chess, table-tennis and enjoy watching football.

## References

**Prof. Ahmad Bagheri**  
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**Prof. Nader Nariman-zadeh**  
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*>>Additional information available upon request.*