

Fatemeh Yavari

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Personal Information

Birth: 1983
Citizenship: Iranian
Language: Persian (maternal), English (fluent), Arabic (basic)

Education and Training

- **PhD**, Biomedical Engineering, Amirkabir University of Technology, 09/2008– 03/2014.
Tehran, Iran
Major: Bioelectronics
Thesis: Improvement of Movements Control Modeling based on Model Predictive Control
Supervisor: Dr. Farzad Towhidkhah
- **MSc**, Biomedical Engineering, Amirkabir University of Technology, 09/2005-04/2008
Tehran, Iran,
Major: Bioelectronics
Thesis: Modeling Gene Regulatory Networks Using Time Series Microarray Data.
Supervisors: Dr. Farzad Towhidkhah; Dr. Shahriar Gharibzadeh
- **BSc**, Shahed University, Tehran, Iran 09/2001-09/2005
Major: Biomedical Engineering
Project: Design and Manufacturing GSR Biofeedback Device Attachable to the PC.
Supervisor: Dr. A.M. Nasrabadi

Positions and Employment

- **Teaching Assistance**, Biomedical Engineering Department, 09/2008-02/2014.
Amirkabir University of Technology
- **Editorial Board member and Compiler**, MED & LAB Engineering 11/2008-Pres.
Magazine (<http://www.iranbmemag.com/en/home/>).

- **Member**, Cybernetics and Modeling of Biological Systems Lab, Biomedical Engineering Department, Amirkabir University of Technology, Tehran, Iran 09/2005-Pres.
- **Teacher**, Amirkabir University of Technology, Computer Engineering & IT Department 09/2009-12/2009
- **Employee**, Med. Device Department, Ministry of Health and Medical Education (imed.ir) 01/2006-12/2006
- **Testing of Various Medical Instruments** (e.g. EEG, Electrosurgery, Phototherapy, IEC60601-1:2005, etc.), Med. Equip. Test Lab., Reference Lab., IROST (<http://www.irost.org/en/>) 06/2006-09/2007

Publications

Books

- 2014 • F. Towhidkhal, **F. Yavari**, “Application of Information Technology in Medicine”, Amirkabir University of Technology Press.

Journals

- 2014 • **F. Yavari**, F. Towhidkhal, MA. Ahmadi-pajouh, M. Darainy, H. Ekhtiari, “Cerebellum as a forward but not inverse model in visuomotor adaptation task: A tDCS-Based and Modeling Study”, submitted.
- S Mahdavi, **F Yavari**, S Gharibzadeh and F Towhidkhal, “Modeling Studies for Designing Transcranial Direct Current Stimulation Protocol in Alzheimer’s disease”, *Frontiers in Computational Neuroscience*, 2014, 8:72. doi: 10.3389/fncom.2014.00072
- **F. Yavari**, F. Towhidkhal, M. Darainy, “A hypothesis on the role of perturbation size on the human sensorimotor adaptation”, *Frontiers in Computational Neuroscience*, 2014, 8:28, doi: 10.3389/fncom.2014.00028.
- 2013 • **F. Yavari**, F. Towhidkhal, MA. Ahmadi-pajouh, “Are fast/slow process in motor adaptation and forward/inverse internal model two sides of the same coin?”, *Medical Hypotheses*, 2013 Oct; 81(4):592-600.
- **F. Yavari**, F. Towhidkhal, “A new proposal on how motor memory is consolidated”, *The Journal of Neuropsychiatry and Clinical Neurosciences*, 2013; 25: E03-E04.
- 2011 • V.R. Nafisi, M. Eghbal, M.R. Jahed Motlagh, **F. Yavari**, “Fuzzy Logic Controller for Hemodialysis Machine Based on Human Body Model”, *Journal of Medical Signals and Sensors*, May 2011, Vol. 1 (1), pp. 24-39.

Conferences

- 2014 • **F. Yavari**, F. Towhidkhah, “Modeling the Effect of Explicit Information in Visuomotor Adaptation”, ICEE, Tehran, Iran, May 20-22, 2014.
- 2013 • **F. Yavari**, F. Towhidkhah, M.A. Ahmadi-Pajouh, “Examining Internal Forward Models’ Formation Using Cerebellar tDCS”, in BCNC’13, Tehran, Iran, Dec. 18-20, 2013.
- **F. Yavari**, F. Towhidkhah, M.A. Ahmadi-Pajouh, “A Review on Cerebellar tDCS Studies”, in BCNC’13, Tehran, Iran, Dec. 18-20, 2013.
- Sh. Mahdavi, **F. Yavari**, F. Towhidkhah, “Transcranial Direct Current Stimulation as a Technique for Studying Motor Memories”, in BCNC’13, Tehran, Iran, Dec. 18-20, 2013.
- 2012 • **F. Yavari**, F. Towhidkhah, and Sh. Gharibzadeh, “A Novel Method for Inference of Genetic Regulatory Networks Using Time Series Microarray Data and Gene Ontology”, in Proc. CECIT, Mashhad, Iran, November 7-9, 2012.
- 2010 • **F. Yavari**, F. Towhidkhah, Sh. Gharibzadeh, et al., “Using Protein-protein Interactions and Gene Ontology in Gene Regulatory Networks Reconstruction”, (in Persian) in Proc. ICBME, Isfahan, Iran, November 3-4, 2010.
- 2009 • V. Abouei, **F. Yavari**, F. Towhidkhah, et al., “Using Protein-protein Interactions in Gene Regulatory Networks Reconstruction using Bayesian Networks and Gene Expression Microarray Data”, (in Persian) in Proc. ICBME, Mashhad, Iran, February 12-13, 2009.
- 2008 • **F. Yavari**, F. Towhidkhah, Sh. Gharibzadeh, et al., “Modeling Large-scale Gene Regulatory Networks Using Gene Ontology-based Clustering and Dynamic Bayesian Networks”, in Proc. iCBBE, Shanghai, China, May 16-18, 2008, pp. 297-300.
- **F. Yavari**, F. Towhidkhah, and Sh. Gharibzadeh, “Gene Regulatory Network Modeling Using Bayesian Networks and Cross Correlation”, in Proc. CIBEC, Cairo, Egypt, December 18-20, 2008, pp. 1-4.
- **F. Yavari**, F. Towhidkhah, and Sh. Gharibzadeh, “Gene Regulatory Networks Modeling using Bayesian Networks”, (in Persian) in Proc. ICBME, Tehran, Iran, February 13-14, 2008.
- **F. Yavari**, F. Towhidkhah, Sh. Gharibzadeh, et al, “Gene Regulatory Networks Modeling using Gene Ontology and Bayesian Networks”, (in Persian) in Proc. ICEE, Tehran, Iran, May 13-15, 2008.

Teaching Experience

- Application of Information Technology in Medicine (MSc Course Teaching Assistance / 7 semesters)
- Electrical Measurement (BSc Course Teaching Assistance / 4 semesters)

- Modeling of Biological Systems (MSc Course Teaching Assistance / 2 semesters)
- Neuromuscular Systems Control (MSc Course Teaching Assistant / 1 semester)
- Electrical Circuits Laboratory (BSc Course Teaching / 1 semester)

Presentations

- 2014
 - “**Modeling the Effect of Explicit Information in Visuomotor Adaptation**”, (in Persian) in Proc. ICEE, Tehran, Iran, May 20-22, 2014.
 - “**tDCS, Motor Learning in Healthy Subjects, and Motor Rehab in Stroke Patients**”, In Workshop on tDCS (3rd and 4th round), IRSA Institute (<http://home.iranirsa.com/>); 22-23 Aug. 2013 & 16-17 Jan. 2014.
- 2013
 - “**Examining Internal Forward Models’ Formation Using Cerebellar tDCS**”, (in English) in BCNC’13, Tehran, Iran, Dec. 18-20, 2013.
- 2012
 - “**Internal Models in Human Brain**”, for Neuromuscular Systems Control Course, Biomed. Eng. Dep., Amirkabir Univ., spring 2012 & 2013.
- 2008
 - “**Gene Regulatory Networks Modeling using Gene Ontology and Bayesian Networks**”, (in Persian) in Proc. ICEE, Tehran, Iran, May 13-15, 2008.
 - “**Gene Regulatory Networks Modeling using Bayesian Networks**”, (in Persian) in Proc. ICBME, Tehran, Iran, February 13-14, 2008.

Accomplished Projects

- A study on **Artificial Neural Network Systems**, Amirkabir University of Technology, MSc Course: Artificial Neural Network.
- A study on **Fuzzy Systems**, Amirkabir University of Technology, MSc Course: Fuzzy control systems.
- A study on **Chaos and its application in biomedical engineering**, Amirkabir University of Technology, MSc Course: Modeling of Biological systems.
- A study on **Biological signal processing**, Amirkabir University of Technology, MSc Course: Modeling of Biological systems.

Workshops & Speeches

- **Workshop on Principles & Applications of MRI in Neuroimaging**, By Dr. Abbas Nasiraie at IPM, 29 May 2013.
- **What can we know and how should we use human brain stimulation methods?** By Prof. Vincent Walsh in ICCS 2013, 8 May 2013.
- **Transcranial Direct Current Stimulation (tDCS) Workshop**, By Irsa Company 19 Oct. 2012.
- **The cost of time in control of movements**, by Dr. Reza Shadmehr in ICBME 2012.
- **Role of Rapid Motor Responses in Motor Control**, By Mohsen Omrani (Queen’s University)
- **A Workshop on Biomathematics**, IPM, 28 Dec. - 1 Jan., 2010 (<http://math.ipm.ac.ir/conferences/2010/Biomath/Biomath.pdf>).

- **Service of Electrosurgery Equip** (ERBOTOM ICC 300H, ERBE Company).

Professional experience

- **Reviewer** of Fifth International Conference of Cognitive Science (ICCS 2013).

Research Proposal

- 2014 • Member of a research project titled: “**Designing, Manufacturing, and Clinical Feasibility Assessment of a Test Sample of Transcranial Direct & Alternative Current Stimulator Programmable with PC**”, under the supervision of Dr. Towhidkhah, Granted by COGC (www.cogc.ir), in process.
- 2013 • Member of a research project titled: “**Designing PC-controlled Robotic Arm for Rehabilitation and Joint Stiffness Measurement**”, under the supervision of Dr. Towhidkhah, Granted by Iran National Science Foundation (www.insf.org).

Programming Language and Computer Skills

- MATLAB, C#, LabVIEW, Pspice, CodeVision AVR, Adobe Photoshop, Microsoft Office: MS Word, MS PowerPoint, MS Excel.

Special Research Interests

- Motor control and motor learning researches.
- Experiment design.
- tDCS, TMS, rTMS experiments.
- Computational modeling of biological systems and processes.