

C.V. of Dr. ALI MEGHDARI, ASME Fellow

PRESENT POSITIONS

- ◆ Professor of Mechanical Engineering, Director: Center of Excellence in Design, Robotics, and Automation (*CEDRA*), **Sharif University of Technology**, Tehran, Iran. Tel: (+98-21) 6616-5541, Fax: (+98-21) 6600-0021. Emails: meghdari@sharif.edu , meghdari@msn.com
Home Pages: <http://meghdari.sharif.edu> , <http://www.mech.sharif.ir/web/14039/1>

RESEARCH INTERESTS

Kinematics & Dynamics of Multibody Systems; Robotics & Control; Mechanisms Design; Biomechanical Systems and Bio/Nano-Robotics; Social and Cognitive Robotics; Mechatronics.

ACADEMIC/ADMINISTRATIVE EXPERIENCE

- ◆ **Ministry of Energy** (Water & Electricity), Deputy of Research and Human Resources, Tehran, Iran.
 - Director General: Office of Education, Research, and Technology 11/2015-1/2018
- ◆ **Islamic Azad University**, Central Organization, Tehran, Iran.
 - Professor and Dean: Center for Faculty Appointments, Hiring, and Promotion 3/2014-7/2015
- ◆ **Sharif University of Technology**, Tehran, 11365-9567, Iran.
 - Project Manager: Research & Technology Campus , <http://rtc.sharif.edu> 4/2013-4/2015
 - Provost and Vice-President of Academic Affairs 9/2001-9/2010
Responsible for planning, development, supervision, assessment, and management of academic affairs at the university with the assistance of five deputies. Sharif university is the highest ranking engineering and science institution of higher education in Iran with an international reputation, specially among the top 400 institutions worldwide. It is composed of 13 departments specializing in various engineering disciplines and basic sciences, and about 12 research centers and institutes. A total of 480 full-time faculties provide academic services to the university programs. Approximately 5500 B.Sc., 4000 M.Sc., and 950 Ph.D. students are currently pursuing their education at Sharif, out of which about 25% are women. In addition, I actively participated in the planning and development of the Sharif International Campus in Kish Island since 2003, currently hosting a total of about 1000 students at the B.Sc. and M.Sc. levels.
 - Full-Professor of Mechanical Engineering 7/1997-present
 - Director; Center of Excellence in Design, Robotics, and Automation(*CEDRA*) 3/2001-present
Managing and conducting research on the design of robotics and automation systems to serve the needs of Iranian industries with a group of about 10 scientists and 10 engineers.
Home Page: <http://www.mech.sharif.ir/web/14039/1> , International Exhibition Home Page: http://www.expo21xx.com/automation21xx/15799_st2_university/default.htm
 - Director; Languages & Linguistics Center 3/2009-4/2013
 - Member; The Central Faculty Promotion Committee, Ministry of Science, Research, and Technology, Tehran, Iran. 3/2002-3/2004
 - Member; Special Advisory Committee on Research and Technology, Ministry of Science, Research, and Technology, Tehran, Iran. 1/2002-1/2004
 - Chairman; School of Mechanical Engineering 6/1996-8/1999
Responsible for managing the overall programs of the School of Mechanical Engineering having about 45 full-time Ph.D. Professors, 25 staff members and approximately 500 B.Sc., 250 M.Sc.,

and 40 Ph.D. students. Responsibilities included: managing the School's financial matters, maintenance of the academic integrity of degree programs, scheduling, supervision of staff, evaluating faculty members and coordinating promotion and tenure actions, and serving as a channel of communication between the School and the President of the University.

- Director; Robotics Instructional & Research Laboratories 3/1988-3/2001
- Deputy-Chairman; for Educational and Student Affairs 4/1994-6/1996
- Head; Biomechanical Engineering Division 9/1989-3/1993
- Associate Professor; with Tenure 5/1992-7/1997
- Assistant Professor; Tenure-Track 12/1987-5/1992
- General Chairman; 1st Int. Mech. Engr. Conf., June 9-12, 1992, Iran. 6/1990-7/1992
- Deputy-Chairman; for Research & Industrial Relations 5/1988-11/1989
- ◆ **Colorado School of Mines, ACEPS & IBDMS** Research Centers, Division of Engineering, Golden, CO., 80401-1888, USA.
 - Visiting Research Professor (on sabbatical from Sharif) 9/1999-8/2000
IBDMS: NSF Center for Intelligent Biomedical Devices and Musculoskeletal Systems.
 Conducting research on biomedical telemetry, mathematical modeling and simulation of lower extremities, and design of smart rehabilitative devices.
 TEACHING: Courses in Engineering Dynamics, and Advanced Engineering Dynamics.
- ◆ **University of California-Davis**, Mechanical & Aeronautical Engineering Department, Advanced Highway Maintenance & Construction Technology (*AHMCT*) Center, Davis, CA. 95616, USA.
 - Visiting Research Associate Professor (on sabbatical from Sharif) 3/1993-3/1994
 Conducted research on the design of automated telerobotics systems for highway maintenance and construction, dual-arm manipulator design, and smart materials applications in robotics.
- ◆ **The University of New Mexico**, Mechanical Engineering Dept., Albuquerque, NM. 87131, USA.
 - Visiting Scientist (Artificial Muscle Research Institute-*AMRI*) Summer of 1999
 - Visiting Research Associate Summers of 1991, 1992, and 1995
 - Research and Teaching Associate 8/1985-5/1987
 - Adjunct Instructor and Teaching Assistant 8/1984-8/1985
- ◆ **Northern Illinois University**, Mechanical Engineering Tech. Dept., DeKalb, IL. 60115, USA.
 - Teaching and Research Assistant 8/1982-12/1983

TEACHING EXPERIENCE & INTERESTS

(U =Undergraduate; UL =U. Laboratory; G =Graduate)

Automatic Control Engineering (U,G), Design of Machine Elements & Mechanisms (U), Engineering Mechanics: Statics(U); Dynamics(U); Thermodynamics-I (U), Engineering Physics(UL), Intermediate/Advanced Dynamics (U,G), Introduction to Biomechanics (U,G), Kinematics & Dynamics of Machinery (U), Linear Systems Analysis (G), Mechanical Vibrations (U), Random Vibrations (G), Robotics: Kinematics; Dynamics; Design; Control" (U,UL,G), Graduate Seminars: Applied Mechanics; Biomechanics; and Mechatronics.

INDUSTRIAL EXPERIENCE

- ◆ **Ministry of Energy** (Water & Electricity), Deputy of Research and Human Resources, Tehran, Iran.
 - Director General: Office of Education, Research, and Technology 11/2015-1/2018
- ◆ **Ministry of Housing and City Developments**, Tehran, Iran.
 - Professional Mechanical Engineer in Buildings Construction (1st Grade) 01/2001-present
 Design and inspection of mechanical plans and drawings for moderate size buildings and high-

ries under construction in the province of Tehran.

- ◆ **Rocky Mountain Musculoskeletal Research Laboratory**, 2425 S. Colorado Blvd., Suite 280, Denver, CO. 80222, USA. Tel: (303) 759-1464, Fax: (303) 759-2316.
 - Senior Research Scientist 09/1999-08/2000
Collaborated in design and supervision of projects, preparing government proposals, and preparing technical reports such as (i.e. Development of a Motion Tracking X-Ray Fluoroscopy System, Effectiveness Analysis of Osteoarthritis Knee Brace During Gait, etc.).
- ◆ **Advanced Manufacturing Research Center (AMRC)**, Tehran, Iran.
 - Research Collaborator, and Member of the Scientific Committee 09/1994-06/1999
Conducted design, research and development of automation systems for various industrial projects. Collaborating with a group of 6 scientists and 10 engineers on the establishment and development of a 7 million dollars Robotics and Manufacturing research center in Tehran.
- ◆ **Biomedical & Rehabilitation Engineering Research Center**, Tehran, Iran.
 - Part-time Research Consultant 12/1990-08/1992
Collaborated on the design of artificial arms & hands, wheelchairs, and mobile systems.
- ◆ **Los Alamos National Laboratory**, Mechanical & Electronic Engineering Division, Robotics & Automation Section, TA-35, Los Alamos, NM. 87545, USA.
 - Research Associate (Post-Doc.) 03/1987-01/1988
Collaborated on the design, testing, and evaluation of various Robotics & Automation systems for hazardous materials handling in Glove-Box environment. Sample Projects were: Automating the Isotope Detector Fabrication Process, and the Automatic Bag-out Operation System.

EDUCATION

- ◆ **Ph.D.:** Mechanical Engineering, Overall G.P.A.: 3.82/4.00,
Department of Mechanical Engineering,
The University of New Mexico, Albuquerque, NM, USA.
Dates of Attendance: 01/1984-05/1987
Ph.D. Advisor: Professor Mohsen Shahinpoor
Thesis Title: Elastic Deformation Characteristics and Constitutive Equations of Light-Weight Flexible Robot Manipulators.
- ◆ **M.Sc.:** Mechanical Engineering, Overall G.P.A.: 4.00/4.00,
Department of Mechanical and Industrial Engineering,
Northern Illinois University, DeKalb, IL, USA.
Dates of Attendance: 08/1982-12/1983
M.Sc. Advisor: Professor Sengoda Ganesan
M.Sc. Project: Robot Dynamics & Manipulators Control by Configuration Space Method.
- ◆ **B.Sc.:** Mechanical Engineering, Overall G.P.A.: 3.16/4.00,
Department of Mechanical & Aerospace Engineering
University of Missouri, Columbia, MO, USA.
Dates of Attendance: 06/1979-05/1982
B.Sc. Advisor: Professor James Durand Jr.
B.Sc. Project: Design and Performance Characteristics of an Electric Car.

AWARDS, SCHOLARSHIPS, AND INVENTIONS

- Recipient of "ICRoM 2017 1st Place Design Creativity Award (for the RASA Social Robot)" at the 5th Int. Conf. on Robotics & Mechatronics Robotics, AmirKabir University, Tehran, Iran. 10/2017
- Recipient of "ICRoM 2017 3rd Place Design Creativity Award (for the ROMA Mannequin Robot)" at

- the 5th Int. Conf. on Robotics & Mechatronics Robotics, AmirKabir University, Tehran, Iran. 10/2017
- Recipient of "ICSR 2016 Best Innovative Idea Award (WATERobot)" at the 8th Int. Conf. on Social Robotics, University of Kansas, Springer, USA. 11/2016
- Recipient of "ICSR 2014 Best Paper Award" at the 6th Int. Conf. on Social Robotics, Sydney, Australia. 10/2014
- Recipient of the Allameh Tabatabaee Distinguished Professorship Award for Excellence in Teaching and Research by the National Elite Foundation of Iran. 03/2012
- Recipient of the Distinguished Award for Activities of the Center of Excellence in Design, Robotics & Automation, By the Ministry of Science, Research and Technology, 12/2009
- Recipient of "DAAAM International Oral Presentation Award" at the "17th DAAAM International Conference and Symposium" Vienna, Austria. 11/2006
- Recipient of "the 40th Anniversary Silver Coin and Award of Appreciation of the Sharif University of Technology" as an Exemplary Researcher, Tehran, Iran. 03/2005
- Recipient of the Distinguished Professor of Mechanical Engineering Award, By the Iranian Society of Mechanical Engineers (ISME), Isfahan, Iran. 04/2004
- Recipient of 2nd Place Award at the "Real Resque Robot League" of the 7th International RoboCup Competitions & Conferences, RoboCup2003, *Award Winning Paper*, <http://www.scribd.com/doc/7129518/Cedra-Awardee-Paper>, Padova, Italy. 07/2003
- Recipient of the MIT's Learning International Networks Consortium (LINC) Travel Award to present a speech on Sharif Virtual University at the Center for Advanced Educational Services, Massachusetts Institute of Technology, Boston, USA. (Travel Award: \$2000). 02/2003
- Recipient of the TIT Centennial Commemorative International Academic Grant to visit the Tokyo Institute of Technology, Tokyo, Japan. (Travel Award: 301,500 Yen). 03/2003
- Recipient of the Distinguished Professor of Mechanical Engineering Award, By the Ministry of Science, Research and Technology, Iran. 2002
- Prize Recipient as an Exemplary Researcher, Sharif University of Technology, Iran. 2001
- Recipient of the 1997 ISESCO Prize in Technology (\$5000 + Travel Award) for Outstanding Achievements in Research & Education in Technology; among nominees from Islamic Nations. ISESCO: Islamic Educational, Scientific & Cultural Organization, Rabat, Morocco. 1998
- Iranian Society of Mechanical Engineers(ISME) Award for Supervising the best M.Sc. Thesis in Mech. Engr. during 1997-98 academic year in Iran; entitled "Design and Fabrication of a Series of Modular Robotics Grippers Equipped with a Quick-Change System", Iran. 1998
- Listed in: Who is Who in the World, 15th Ed., USA. 1998
- Mechanical Engineering Exemplary Professorship Award, S.U.T., Iran. 1996
- Research Prize recipient from Sharif University of Technology, Iran. 1995
- Prize recipient from the Supreme Council on Scientific Research, Iran. 1991
- Prize Recipient as an Exemplary Researcher, Sharif University of Technology, Iran. 1990
- Y.C. HSU Memorial Award (\$750) for Excellence in Graduate Work, USA. 1987
- Universal Oil Scholarship (\$1200), USA. 1980
- International Work Scholarship (\$500), USA. 1980
- Reader's Digest Scholarship(\$1000), USA. 1979
- "Geometric Adaptability in Artificial & Cybernetic Hands", IPO:No. 24220, Iran. 12/23/1990
- "Dual-Arm Cam-Lock Manipulators", US Patent pending, UC#93-353-1, USA. 11/09/1993
- "Design and Fabrication of a Knotting Mechanism to Duplicate Traditional Persian Carpet Weaving", Iranian Patent Office (pending), Iran. 02/10/1995
- "A Novel Design in Quick-Change Systems", Iranian Patent Office. 01/12/1997
- "Design, Fabrication, and Calibration of a Robotic Device for Lumbar Muscles Power Measurement", Owners: Mr. Azghani; Dr. Farahmand; Dr. Parnianpour; Dr. Meghdari; Mr. Farzampour. Iranian Patent Office, Patent Invention Book No. 59668. 06/26/2009

- "A Mobile Holonomic Robot with Spherical Wheels", Owners: Mr. Beigzadeh; Mr. Monjazebeh; Mr. Taheri; Dr. Meghdari, Iranian Patent Office, Patent Invention Book No. 67938. 12/14/2010
- "Design and Application of Humanoid Robots in 1st and 2nd Language Teaching", Owners: Dr. Alemi, Dr. Meghdari, Ms. Ghazisaedi, Mr. Taheri, Iranian Patent Office Invention No. 80841. 10/12/2012
- "Driver and Controller of an Educational Manipulator along with its Interface", Owners, Mr. Naseri, Dr. Meghdari, Iranian Patent Office Invention No. 80792. 10/06/2012

MEMBERSHIPS

- The Elites Council (National Elites Foundation), Iran. 07/2015-present
- Board of Directors: Robotics Society of Iran (*RSI*), Iran. 05/2011-present
- Board of Directors: Iranian Society of Engineering Education (*ISEE*), Iran. 09/2010-9/2014
- Board of Editors, Journal of Intelligent & Robotic Systems. 01/2018-present
- Transaction G Editor: Socio-Cognitive Engineering, *SCIENTIA IRANICA* 06/2017-present
- Editorial Advisory Board, Iranian Journal of Engineering Education. 09/2009-present
- Board of Editors, Int. Journal of Robotics. 09/2008-present
- Board of Editors, Int. Journal of Advanced Robotics Systems (*ARS*). 01/2005-present
- Academy of Sciences of the I. R. of Iran. 05/2005-present
- Board of Editors, Int. Journal of Mechanics and Solids(*IJMS*). 11/2004-present
- Board of Editors, *SCIENTIA IRANICA Int. Journal*. 01/2003-present
- Editorial Advisory Board, *ISME* Journal of Mechanical Eng. 01/2002-present
- Iranain Construction Engineers Organization, Tehran. 03/2001-present
- Editorial Advisory Board, Int. Journal of Engineering. 08/1988-present
- Editorial Board, Sharif Journal of Science & Research. 09/1992-present
- The Tau-Beta-Pi ($\tau\beta\pi$) National Engineering Honor Society, USA. Life-Time
- Fellow: American Society of Mechanical Engineers (*ASME*), USA. 09/2001-present
- *IEEE* Int. Workshop on Haptic Applications (*HAVE2009*), CANADA 05/2008-2/2009
- *IASTED* Technical Committee on Robotics, CANADA 05/2001-5/2004
- Int. Sci. Com., World Manufacturing Congress, *WMC'99*, and *WMC'2001*, 1998-2001
- Iranian Society of Mechanical Engineers (*ISME*), Iran. 10/1991-present

GRANTS & FUNDED RESEARCH

- ◆ From the Office of Research and Industrial Relations, Sharif University of Technology & Ministry of Culture and Higher Education, Tehran, Iran.
 - Principal Investigator, "Design and Fabrication of the Sharif Artificial Hand", Grant # SAH-FY-67-69, (Rials 5,000,000), 9/1988-9/1990.
 - Principal Coordinator, "Establishment of the 1st Robotics & Biomechanics Research Laboratories in Iran", Grant # R/BIO-68-70, (\$ 60,000), 8/1989-8/1991.
 - Principal Investigator, "Dynamics and Control Analysis of Flexible Manipulator Arms", Grant # DCAF-FY-70-71, (Rials 8,000,000), 3/1991-6/1992.
 - Principal Investigator, "Developing Artificial Muscles for Biomedical Applications", Grant # DAMBA-FY-71-72, (Rials 8,000,000), 2/1992-2/1993.
 - Principal Investigator, "Robotics & Automation of the Traditional Persian Carpet Weaving", Grant # RATPCW-FY-73-74, (Rials 8,000,000), 4/1994-4/1996.
 - Principal Investigator, "Investigation and Development of Dynamic Decoupling Techniques for Flexible Multi-Body Systems", G# IDTFMBS-FY-74-76, (Rials 20,000,000), 4/1995-4/1997.
 - Principal Investigator, "Kinematics & Dynamics Modeling, and Control of a Robot Attached on a Moving Base", G# KDMCRAMP-FY-76-79, (Rials 25,000,000), 3/1997-3/2000.

- Principal Investigator, "On the Design and Fabrication of a Hospital Nursing Robot", Grant # ODFHNR-FY-77-78, (Rials 10,000,000), 3/1998-9/1999.
- Principal Investigator, "Dynamics Modeling and Analysis of the Knee Joint", Grant # DMAKJ-FY-79-81, (Rials 75,000,000), 9/2000-3/2002.
- ◆ From the Advanced Manufacturing Engineering Research Center, Azadi Ave, Tehran, Iran.
 - Principal Investigator, "Design and Fabrication of a System of Modular Robotics Grippers Equipped with A Quick Change System", Contract # AMERC-DFSMG-FY-74-76, (Rials 60,000,000), 12/1995-6/1997.
 - Co-Principal Investigator, "Design and Fabrication of an Underwater Remotely Operated Vehicle (ROV)", Contract # AMERC-DFUROV-FY-80-81, (Rials 60,000,000 + US\$10,000), 3/2001-9/2002.
- ◆ From the Ministry of Science, Research, and Technology, Nejaatallaahi Ave, Tehran, Iran.
 - Director; "Development of a Center of Excellence in Design, Robotics, and Automation", Contract # CEDRA-FY-79-82, (Rials 1,200,000,000), 3/2001-3/2004.
- ◆ From the World Health Organization (*WHO*) and the Islamic Educational, Scientific & Cultural Organization (*ISESCO*), Cairo, Egypt, (contributing to an ongoing project).
 - Principal Investigator, "Design and Fabrication of a Robotic Nurse Unit to Assist Paraplegic Patients", Contract # O/Ref.D/Sc/3.1.2.1.17/6973, (\$ 2,500), 12/2001-12/2002.
- ◆ From the Industrial Development and Renovation Organization of Iran (IDRO), Tehran, Iran.
 - Principal Investigator; "Design and Fabrication of a Series of Mobile Rescue Robots for Earthquake Applications", Contract # 82/51065, (Rials 1,100,000,000), 2/2004-2/2005.
- ◆ From the TAM Automotive Research Industries (Iran Khodro Coporation), Tehran, Iran.
 - Principal Investigator; "Design and Fabrication of a Model Humanoid Robot for Robocup Competitions", Contract #TAM-CEDRA-FY-82, (Rials 200,000,000), 1/2004-1/2005.
- ◆ From the Iranian National Science Foundation (INSF), Tehran, Iran.
 - Principal Investigator with Prof. Saeed Sohrabpour as Co-PI; "Dynamic Modeling and Analysis of Running in Humanoid Robots", Contract # 84084/8, (Rials 200,000,000), 3/2006-3/2008.
 - Principal Investigator; "Design, Modeling and Simulation of a Corpse Washing Machine (Ghassalkhaneh) Compatible with Islamic Shari'ah", Contract # 89084/8, (Rials 200,000,000), 12/2010-12/2011.
 - Principal Investigator; "Modeling and Motion Analysis of a Nano-Mobile using Molecular Dynamics Approach", Contract # 06/2014, (Rials 200,000,000), 12/2014-12/2015.
 - Principal Investigator with Dr. Minoos Alemi and Prof. Gholamreza Vossoughi as Co-PIs; "Social & Cognitive Robotics", Research Grant, (Rials 500,000,000), 3/2016-3/2017.
 - Principal Investigator with Dr. Minoos Alemi as Co-PI; "Design & Fabrication of a Social Robot for Pediatric Cancer Hospitals", Research Grant, (Rials 400,000,000), 9/2016-9/2017.
- ◆ From the National Elites Foundation of Iran (BMN), Tehran, Iran.
 - "Robotics Systems" Chair Professorship Research Grant, (Rials 500,000,000), 3/2012-3/2014.
- ◆ From the Cognitive Sciences and Technologies Council (COGC), Tehran, Iran.
 - Principal Investigator with Dr. Minoos Alemi as Co-PI; "Modeling and Clinical Application of Humanoid Robots as Assistants in Autism Therapy in Iran", Contract #203646, (Rials 570,000,000), 3/2014-3/2016.
- ◆ From the Iran's Vice-Presidency for Science and Technology, Tehran, Iran.
 - Principal Investigator with Dr. Minoos Alemi as Co-PI; "Enhancement of the Social Robotics Laboratory for Clinical Applications of Social Robots in Pediatric Cancer Interventions", Contract #11/62708, (Rials 1,000,000,000), 12/2014-6/2015.
- ◆ From the Cognitive Sciences and Technologies Council (COGC), Tehran, Iran.
 - Principal Investigator with Dr. Minoos Alemi as Co-PI; "Modeling and Clinical Application of

Social Robots as Assistants in Autism Therapy in Iran", Contract #201600, (Rials 1,100,000,000), 11/2016-11/2017.

- ◆ From Ministry of Communication & Information Technology, ITRC Research Institute, Tehran, Iran.
 - Principal Investigator with Dr. Minoo Alemi as Co-PI; "Design and Development of a Sign-Language Social Robot (RASA) for the Hearing Impaired Children", Contract # P500S11176, (Rials 1,270,000,000), 01/2018-01/2019.

COUNTRIES TRAVELED

Armenia, Australia, Canada, China, Cyprus, Egypt, England, France, Germany, Georgia, Holland, India, Iran, Italy, Japan, Jordan, Lebanon, Malaysia, Mexico, Morocco, Oman, Qatar, Saudi Arabia, Singapore, Sweden, Switzerland, Syria, Turkey, U.A.E., U.S.A.

GRADUATE STUDENTS SUPERVISED

◆ Post-Doctoral Research Fellows (Associates) ◆

Sharif University of Technology, Center of Excellence in Design, Robotics, and Automation, **Research Chair professorship: "Robotics Systems"**, Sponsored by Iran's National Science Foundation (INSF) & National Elites Foundation (BMN), Tehran, Iran.

[1] **Dr. Atefeh Khoshnood**, "DNA Sequencing and Automated Analysis", Sponsored By: National Elites Foundation of Iran, March 2013-March 2014.

[2] **Dr. Minoo Alemi**, "Robotic Assisted Language Learning (RALL)" and "Clinical Application of Humanoid Robots as Therapy Assistant for Autism and Cancer Treatments", Sponsored By: National Elites Foundation of Iran, March 2013-March 2015.

[3] **Dr. Ehsan Ma'ani Miandoab**, "Dynamic Analysis of Nano-Resonators", Sponsored By: National Elites Foundation of Iran, October 2014-October 2015.

[4] **Dr. Azadeh Shariati**, "Design and Application of Social Robots to assist Children with Cancer", Sponsored By: National Elites Foundation of Iran, March 2016-March 2017.

[5] **Dr. Alireza Taheri**, "Design and Application of Social & Cognitive Robotics Systems to assist Autistic Children", Sponsored By: National Elites Foundation of Iran, March 2018-March 2019.

◆ Doctor of Philosophy (Ph.D.) Dissertation Students ◆

Sharif University of Technology, School of Mechanical Engineering, Tehran, Iran.

[1] **Dr. Farbod Fahimi**, "Investigation & Development of Dynamic Decoupling Techniques for Flexible Multi- Body Systems", (Ph.D. Dissertation; 2/1999), Applied Mechanics Division.

[2] **Dr. Davood Naderi**, (Co-advised with Prof. Mohammad Durali), "Kinematics & Dynamics Modeling and Control of a Mobile Manipulator", (Ph.D. Dissertation; 5/2000), Applied Mechanics Division.

[3] **Dr. Reza Ravani**, (Co-advised with Prof. Bahram Ravani), "On the Path Planning of a Robot Manipulator Using the Rational Frenet-Scerret Motion", (Ph.D. Dissertation; 3/2005), Tehran Science and Research Campus-Islamic Azad University.

[4] **Dr. Ali Jafari**, (Co-advised with Prof. Farzam Farahmand), "Dynamics Modeling of Knee Joint after Total Knee Arthroplasty (TKA)", (Ph.D. Dissertation; 01/08), Applied Mechanics Division.

[5] **Dr. Kambiz Ghaemi Oskouei**, (Co-advised with Prof. Saeed Sohrabpour), "Design and Kinematics Optimization of the Dual-Arm Cam-Lock Manipulator", (Ph.D. Dissertation; 3/2009), Applied Mechanics Division.

[6] **Dr. Alireza Ebrahimi**, (Co-Advised with Prof. Mehdi Behzad), "A New Approach for Vibration Analysis of a Cracked Beam", (Ph.D. Dissertation; 8/2009), Applied Mechanics Division.

- [7] **Dr. Seyed Hanif Mahboobi**, (Co-advised with Prof. Nader Jalili), "Molecular Dynamics Simulation of Nanoscale Effects in Nanomanipulation", (Ph.D. Dissertation; 10/2009), Applied Mechanics Division.
- [8] **Dr. Mahmoud Reza Azghani**, (Co-advised with Prof. Farzam Farahmand), "Measurement, Modeling and Analysis of Trunk Performance in Isometric Mode", (Ph.D. Dissertation; 10/2009), Biomechanics Division.
- [9] **Dr. Ali Selk Ghaffari**, (Co-advised with Prof. Gholamreza Vossoughi), "Dynamics Analysis of an Exoskeletal System to Assist a Paraplegic Patient", (Ph.D. Dissertation; 1/2010), Applied Mechanics Division.
- [10] **Dr. Hossein Nejat Pishkenari**, "Molecular Dynamics Based Modeling and Simulation of Nanoscale Processes in Atomic Force Microscopy", (Ph.D. Dissertation; 12/2010), Applied Mechanics Division.
- [11] **Dr. Borhan Beigzadeh**, (Co-advised with Prof. Saeed Sohrabpour) "On the Correlation of Dynamic Biped Locomotion and Dynamic Object Manipulation", (Ph.D. Dissertation; 6/2011), Applied Mechanics Division.
- [12] **Dr. Hoda Sadeghian**, (Co-advised with Profs. Arya Alasti and Hassan Salarieh), "Control of Random Systems by Fractional Calculus (Ph.D. Dissertation; 01/2014), Applied Mechanics Division.
- [13] **Dr. Kaveh Meraat**, (Co-advised with Profs. Arya Alasti and Hassan Salarieh), "Control of Hybrid Random Systems by Limited Access to State-Space Data", (Ph.D. Dissertation; 02/2015), Applied Mechanics Division.
- [14] **Dr. Mohammad Abedini**, (Co-advised with Prof. Hassan Salarieh), "Model Reference Adaptive Control in Fractional Order Systems", (Ph.D. Dissertation; 03/2015), Applied Mechanics Division.
- [15] **Dr. Mansour Abtahi**, (Co-advised with Prof. Gholamreza Vossoughi), "Dynamic Analysis of Electrostatic Scratch Drive Micromotors", (Ph.D. Dissertation; 02/2015), Applied Mechanics Division.
- [16] **Dr. Alireza Taheri**, (Co-advised with Prof. Hamid R. Pouretemad and Dr. Minoo Alemi), "On the Design and Application of Humanoid Robots as Co-Therapist in Autism Diagnosis and Treatment", (Ph.D. Dissertation; 12/2017), Applied Mechanics Division.
- [17] **Dr. Alireza Nemati-Estahbanati**, (Co-advised with Prof. Saeed Sohrabpour and Dr. Hossein Nejat) "Modeling and Motion Analysis of a Nano Mobile Robot Using Molecular Dynamics", (Ph.D. Dissertation; 01/2018), Applied Mechanics Division.
- [18] **Seyyed Mohammad Hosseini Lavasani**, (Co-advising with Dr. Hossein Nejat) "Modeling and Motion Analysis of a Light-driven Nano Mobile Robot", (Ph.D. Thesis in Progress), Applied Mechanics Division.
- [19] **Mojtaba Shahab**, (Co-advising with Prof. Hamid R. Pouretemad, Dr. Minoo Alemi, and Dr. Alireza Taheri) "Modeling and Design of Virtual Reality Social Robots as Co-Therapist to Children with ASD", (Ph.D. Thesis in Progress), Applied Mechanics Division.
- [20] **Alireza Esfandbod**, (Co-advising with Dr. Minoo Alemi) "Modeling and Design of Cognitive Robotics Systems as Assistive Tools for Teaching Braille to Young Blind or Visually Impaired Children", (Ph.D. Thesis in Progress), Applied Mechanics Division.

◆ **Master of Science (M.Sc.) Thesis Students** ◆

Sharif University of Technology, School of Mechanical Engineering, Tehran, Iran.

- [1-2] M. Arefi and M. Mahmoudian, "Modeling, Design, and Fabrication of the Sharif Artificial Hand: Biomechanical Issues", 8/1990, Biomechanics Division.
- [3-4] B. Vosoughi-Vahdat and R. Shahghadami, (Co-Advised with Dr. Edmond Zahedi), "Modeling, Design, and Fabrication of the Sharif Artificial Hand: Bioelectronics Issues", 12/1990, Bioelectronics Engineering Division.

- [5] H. Haashem Alhoseyni, "Computer Graphics Simulation of the PUMA-560 Robot Kinematics and Dynamics", 9/1990, Applied Mechanics Division.
- [6] I. Hashemlou, "Kinematics & Dynamics Analysis of a Four-Legged Locomotion System", 9/1990, Applied Mechanics Division.
- [7] H. Sayyaadi, "Theory of Contact and Optimization in Trajectory Planning for Finger-Like Dexterous Manipulators", 9/1990, Applied Mechanics Division.
- [8] M. Ghasempouri, "Modeling, Dynamics and Control of Elastic Manipulators", 5/1991, Applied Mechanics Division.
- [9] S. Raghibi-Zadeh, "Trajectory Generation, Position and Force Control Theories of Robots with an Emphasis on Adaptive Control", 6/1991, Applied Mechanics Division.
- [10] F. Aghili, (Co-Advised with Dr. Mohammad Haghpanahi), "Design & Control of an Above-Elbow Prosthesis Based on Combination of E.P.P. Method and Extraction of Motion Classes by Pattern Recognition", 3/1992, Biomechanics Division.
- [11] R. Davoodi, "Applying Engineering Techniques in the Analysis of Human Birth Process", 6/1992, Biomechanics Division.
- [12] M. Jafarian, "Modeling, Design, Fabrication and Analysis of Pneumatically Actuated Artificial Muscles", 1/1993, Applied Mechanics Division.
- [13] A. Sekhavat, "Swing-Free Motion of a Suspended Object from the End-Effector of an Industrial Robot", 2/1994, Applied Mechanics Division.
- [14] S. Sarjami, (Co-Advised with Prof. Mohammad H. Kargarnovin), "Application of Analytical Methods and Numerical Simulation in Orthodontics: Study of Arch-Wire System of Forces and Teeth Movements", 9/1994, Biomechanics Division.
- [15] J. Mobarezpour, (Co-Chairman of the Thesis Committee), "Human Body's Control Strategy in Standing Mode", 12/1996, Biomechanics Division.
- [16] A. A. Mahdavi-Jalal, "Minimizing Amplitude of Oscillation of a Flexible Beam During Transport by a Robot", 1/1997, Islamic Azad University, Dept. of Mechanical Engineering, Tehran.
- [17] M. Naderian, (Co-Advised with Dr. Gholamreza Vossoughi and Dr. Khatiboleslam Sadrnejad), "Application of NiTi Shape Memory Alloys for Actuation of an Artificial Hand", 3/1997, Applied Mechanics Division.
- [18] F. Barazandeh, "Design and Fabrication of a Series of Modular Robotics Grippers Equipped with a Quick Change System", 10/1997, Applied Mechanics Division.
- [19] M. Shahparian, "Kinematics and Dynamics Modeling of Parallel Manipulators", 9/1997, Applied Mechanics Division.
- [20] M. Khazraie, "Solving Non-Linear Dynamics Model of Joints in Human Body", 6/1997, Biomechanics Division.
- [21] H. Shah Ali, "Three Segment Dynamic Model of Knee Joint in Two-Dimensional Space", 6/1997, Biomechanics Division.
- [22] M. Saaedi, "Design and Fabrication of a Feeding Mechanism to Automate the Automobile Tire Assembly Process", 9/1997, Manufacturing & Production Division.
- [23] J. Vatankhah, "Design and Fabrication of a 3-D.O.F. Wrist Force Sensor", 10/1997, Applied Mechanics Division.
- [24] H. Javadi, (Co-Advised with Dr. Hamid R. Katouzian and Dr. Mohammad T. Ahmadian), "F.E.M. Analysis of Stress Wave Propagation at Heel Strike on the Mechanical Connection of Bone and Artificial Joint", 12/1997, Biomechanical Engineering Division.
- [25] R. J. Samarghandi, (Co-Advised with Dr. Farzam Farahmand), "On the Design and Fabrication of Orthopedic Implants", 3/1998, Biomechanics Division.
- [26] M. Afrough, "Investigation of Robot Kinematics Calibration Methods as Applied to MA-3000 Manipulator", 5/1999, Applied Mechanics Division.

- [27] H. Fakur Alagheband, (Co-Advised with Dr. Farzam Farahmand), "Force Analysis of the Knee Joint During Rise from Deep Squat", 6/1999, Biomechanics Division.
- [28] A. R. Samadi, "Design and Animation of Bicycles for Women of Islamic Culture", 6/1999, Biomechanics Division.
- [29] A. A. Forough-Nasiraei, "Design and Fabrication of a Hospital Nursing Robot", 9/2000, Biomechanics Division.
- [30] A. H. Bahrami, "Mathematical Modeling and Analysis of the Normal, Degenerated, and Fused Cervical Spine", 11/2001, Applied Mechanics Division.
- [31] A. Nezafat, "Investigation of Robot Kinematics in Braced Manipulators", 03/2002, Applied Mechanics Division.
- [32] M. Amir Hosseini, "Kinematics and Dynamics of an Underwater Remotely Operated Vehicles (UROV)", 03/2002, Applied Mechanics Division.
- [33] M. Arianpour, "Kinematics Investigation and Analysis of the Jumping Process", 03/2002, Applied Mechanics Division.
- [34] N. Dadkhah Tehrani, (Co-Advised with Prof. Nasser Sadati), "Intelligent Approach in Satellite Attitude Control", 09/2002, Applied Mechanics Division.
- [35] Azam A. Toosi, (Co-Advised with Dr. Mohammad H. Saeidi), "Energy Flow Optimization Model in a Housing Unit", 02/2003, Energy Conversion Division.
- [36] M. R. Alam, "Real-Time Compensatory Manipulator Motion Planning for Stabilizing a Mobile Manipulator", 07/2003, Applied Mechanics Division.
- [37] M. Nakhaee-Nejad, (Co-Advised with Dr. Davood Naderi) "On the Design and Motion Analysis of a Snake-Like Manipulator", 07/2003, Applied Mechanics Division.
- [38] H. R. Chabok, "On the Design and Fabrication of a Master/Slave Manipulator for Glove Box Environment", 3/2003, Manufacturing & Production Division.
- [39] H. Borhan, (Co-Advised with Dr. Gholamreza Vossoughi), "Modeling and Control of an Underwater Remotely Operated Vehicles (UROV)", 03/2003, Applied Mechanics Division.
- [40-41] A. Lotfi, and S. H. Mahboobi, "Design Characteristics, Kinematics and Dynamics Modeling of a Shrimp Rover for Unstructured Environments", 06/2004, Applied Mechanics Division.
- [42] A. Kiapour, (Co-Advised with Dr. Farzam Farahmand), "Modeling and Analysis of Spine Muscles in Back when Creating Stability at the Presence of External Forces", 2/2004, Biomechanics Division.
- [43] M.R. Deylami, (Co-Advised with Prof. K.N. Sadrnejad), "Design and Fabrication of an Artificial Esfancter using NiTi Shape Memory Alloy", 8/2004, Biomechanics Division.
- [44] R. Karimi, "Dynamic Analysis and Control of Human Double Leg Jumps", 12/2004, Applied Mechanics Division.
- [45] H. Nejat Pishkenari, (Co-Advised with Dr. Nader Jalili), "Acquisition of High Precision Images for Non-contact Atomic Force Microscopy via Direct Identification of Sample Height", 03/2005, Applied Mechanics Division.
- [46] B. Beigzadeh, (Co-Advised with Dr. Majid Nili Ahmadabadi), "Kinematical and Dynamic Analysis of Biped Robots' Locomotion using Dynamic Object Manipulation Approach", 03/2005, Applied Mechanics Division.
- [47] A. Afshari, "New Form of Jacobian Matrix & Equations of Motion for a 6 D.O.F. Cable- Driven Parallel Robot using Constrained Variables", 12/2006, Applied Mechanics Division.
- [48] M. Rajaei, (Co-Advised with Prof. Saeed Sohrabpour), "Dynamic Analysis and Control of an Spherical Robot Mechanism", 08/2006, Applied Mechanics Division.
- [49] M. Saghafi, (Co-Advised with Dr. Nader Jalili), "Electrical Equivalent Circuit of Multi Mode Flexible Beams with Piezoelectric Elements", 10/2006, Applied Mechanics Division.
- [50] S. Eslami, (Co-Advised with Dr. Davood Naderi), "Increasing Stability of Mobile Manipulators using Dynamic Compensation", 12/2006, Applied Mechanics Division.
- [51] A.R. Mirbagheri, (Co-Advised with Dr. Farzam Farahmand), "Modeling and Optimum

- Design of a Robot Mechanism to Assist Laproscopic Surgery”, 03/2007, Biomechanics Division.
- [52] S. H. Tamaddoni, (Co-Advised with Prof. Saeed Sohrabpour), “Dynamic Modeling and Analysis of Running in Humanoid Robots”, 06/2007, Biomechanics Division.
- [53] P. Zandyeh, (Co-Advised with Dr. M. T. Ahmadian), “Visual Quality Control of Slabs in Hot Rolling Mill using Neuro-Fuzzy Network”, 12/2007, Applied Mechanics Division.
- [54] A. R. Mohammadi, “Design and Fabrication of Brachiation Robot”, 12/2007, Applied Mechanics Division.
- [55] S. Radmard, (Co-Advised with Prof. Hassan Zohoor), “Design, Modeling and Control of Robotic Fish using IPMC’s”, 11/2008, Applied Mechanics Division.
- [56] H. Zomorodi Moghaddam, (Co-Advised with Prof. F. Farahmand), “Measurement and Analysis of Human Body Balance Strategy on a Stabulo-Meter”, 11/2008, Biomechanics Division.
- [57] M. Shahi, “Design, Simulation and Control of the Robotic Fish”, 01/2009, Applied Mechanics Division.
- [58] M. Mansouri Boroujeni, “Haptic Device Application in Virtual Training and Persian Calligraphy”, 01/2009, Mechatronics Division, SUT International Campus, Kish Island.
- [59] M. Paziresh, (Co-Advised with Dr. Saeed Bagheri), “Design and Fabrication of a Three-Dimensional Incoherent Hologram of the Sharif University of Technology, International Campus-Kish Island’s Logo”, 06/2009, Mechatronics Division, SUT Int. Campus, Kish Island.
- [60] H. Babahosseini, “Modeling and Control of Manipulation Process of Nanoparticles by AFM”, 02/2010, Applied Mechanics Division.
- [61-62] V. Yaghoubi Nasrabadi and H. Mohammadi, (Co-Advised with Dr. Saeed Bagheri) “Design of a Prototype 3D Flexible Endoscopy System Based on Digital Holography”, 07/2010, Applied Mechanics Division.
- [63] A. R. Nemati-Estahbanati, “Experimental Investigation of Swarm Robots”, 09/2010, Applied Mechanics Division.
- [64] S. M. Hosseini Lavasani, “Design, Fabrication and Model-based Control of a Brachiation Robot”, 1/2011, Applied Mechanics Division.
- [65] M. Farshchi, “Modeling and Control of Swarm Robots”, 03/2011, Mechatronics Division.
- [66] E. Nasiri, (Co-Advised with Dr. K. G. Osgouie), “*The PaakShooy*: A robotics cell for washing and preparation of a corpse for burial compatible with Islamic shari’at laws”, 05/2011, Mechatronics Division, SUT International Campus, Kish Island.
- [67] S. Safavi, (Co-Advised with Dr. A. Selk Ghaffari), “Design of an Anthropometric Lower-Extremity Exoskeletal System”, 08/2011, Mechatronics Division, SUT Int. Campus, Kish Island.
- [68] A.R. Taheri, (Co-Advised with Dr. S. H. Mahboobi), “Design and Implimentation of a Molecular Dynamics Simulation Software to Model Contact Processes at Nano Scale”, 08/2011, Applied Mechanics Division.
- [69] N. Beheshtkaar, “Dynamics Simulation System of a Mechanical Flapping Bird”, 10/2011, Applied Mechanics Division.
- [70] M.A. Mahjour, (Co-Advised with Dr. H. Nejat), “Simulation of Biomanipulation using Molecular Dynamics”, 10/2011, Mechatronics Division, SUT International Campus, Kish Island.
- [71] M.H. Naseri, “Design and Fabrication of a Real Controller for a 6-DOF Robot Manipulator”, 11/2011, Mechatronics Division.
- [72] B. Rezaeian, (Co-Advised with Dr. K. G. Osgouie), “Optimization of Kinematic Redundancy and Workspace Analysis of a Dual Arm Cam-Lock Robot”, 11/2011, Mechatronics Division, SUT International Campus, Kish Island.
- [73] M. Heydari Kamroudi, “Analysis and Study of a Haptic System”, 08/2012, Applied Mechanics Division.
- [74] N. Sadati, “Dynamic Simulation and Analyis of a Cat Robot”, 08/2012, Applied Mechanics Division.

- [75] A. Khoshnevisan, (Co-Advised with Dr. K. G. Osgouie), “Design and Fabrication of a Wormlike Robot”, 09/2012, Mechatronics Division, SUT International Campus, Kish Island.
- [76] Z. Jahanbin, (Co-Advised with Dr. Ebrahimi), “Dynamics Analysis of Flapping Bird Robot”, 04/2013, Mechatronics Division, SUT International Campus, Kish Island.
- [77] H. Kamali, (Co-Advised with Dr. H. Nejat), “Design and Fabrication of a Quadrator Robot”, 11/2013, Applied Mechanics Division.
- [78] M. Ghazisaedy, (Co-Advised with Dr. M. Alemi), “Effect of Employing Humanoid Robots for Teaching English Language in Iranian Junior High-Schools”, 06/2014, Languages & Linguistics Center.
- [79] Nasim Mahboob Basiri, (Co-Advised with Dr. M. Alemi), “The Effect of Applying Humanoid Robots as Teacher Assistants on Helping Iranian Autistic Pupils in Learning English as a Foreign Language”, 06/2015, Languages & Linguistics Center.
- [80] M. Abedi, (Co-Advised with Dr. S. Behzadipour), “On the Design of a Gait Pattern for the Alice “Mina” Social Robot, January 2016, Applied Mechanics Division.
- [81] E. Saffari, (Co-Advised with Dr. M. Alemi), “Speaker Localization in Noisy Environments: Design and Implementation of a Robotic Hearing Apparatus”, January 2016, Mechatronics Division.
- [82] A. Ghorbandaei Pour, (Co-Advised with Dr. M. Alemi), “Spontaneous Human-Robot Emotional Interaction Through Facial Expressions”, 8/2016, Mechatronics Division, SUT Int. Campus, Kish Island.
- [83] A. Siyamy, (Co-Advised with Prof. S. Bagheri Shouraki), “The Real-Time Facial Imitation by a Social Humanoid Robot”, 8/2016, Mechatronics Division, SUT International Campus, Kish Island.
- [84] M. Khamooshi, (Co-Advised with Dr. M. Alemi), “Design and Fabrication of a Mobile Social Robot “Arash” for Pediatric Cancer Hospital Environment, Part-One: Upper-Body and Hands”, 1/2017, Applied Mechanics Division.
- [85] M. Zakipour, (Co-Advised with Dr. M. Alemi), “Design and Fabrication of a Social Robot “RASA” for Teaching Sign Language to Hearing Impaired Children, Part-One: Upper-Torso, Hands and Arms”, 06/2016, Applied Mechanics Division.
- [86] S.A. Kashanian, (Co-Advised with Dr. M. Alemi), “Design and Fabrication of a Social Robot “RASA” for Teaching Sign Language to Hearing Impaired Children, Part-Two: Lower-Body, Mobile Platform”, 1/2017, Mechatronics Division, SUT International Campus, Kish Island.
- [87] A. Jafari, (Co-Advised with Dr. M. Nejat), “Design, Fabrication and Control of a Cell Micro-Manipulation System”, 01/2017, Applied Mechanics Division.
- [88] A. Amoozandeh Nobaveh, “Design and Fabrication of a Mobile Social Robot Platform with the Ability to Supervise in Mashine Shops”, 1/2018, Manufacturing & Production Division.
- [89] A. Eydi, (Co-Advised with Prof. Vossoughi and Dr. M. Alemi), “Human-Robot Interaction Through Sound Source Localization for “Arash” Social Robot”, 1/2018, Mechatronics Division.

KEYNOTE (INVITED) SPEACHES

- [1-4] **A. Meghdari**, "The Robotics Research Challenge with Limited Resources: From Will to Action...", TED^XSharifUniversity, *August 2013*, ISME Int. Conference, Sharif University of Technology, *February 2013*, and 1st Robotics & Mechatronics Int. Conf., K.N. Toosi University of Technology, *April 2013*, and Islamic Azad University-West Tehran Branch, (Research Week) November 2015.
- [5] **A. Meghdari**, M. Alemi, “Mutually Beneficial Exchange between Language Cognition and Social Robotics”, Ferdowsi University of Mashhad, Department of Literature and Humanities, May 2016.
- [6] **A. Meghdari**, M. Alemi, “A Glimpse of Social and Cognitive Robotics”, Academy of Sciences of I.R. Iran, Science & Engineering Council, July 2016.
- [7] **A. Meghdari**, M. Alemi, “Recent Advances in Social and Cognitive Robotics and upcoming Ethical Challenges”, Islamic Azad University-West Tehran Branch, (Research Week) December 2017.

PUBLISHED BOOKS/PROCEEDINGS

Proceedings of the "**International Conference on Engineering Applications of Mechanics**",
June 9-12, 1992, Tehran, Iran.

- [1] • **Volume One:** "Biomechanics/Robotics and Manufacturing/Artificial Intelligence/Control",
Edited By: **A. Meghdari**
- [2] • **Volume Two:** "Finite Elements/Vehicle Dynamics/Vibrations/Elasticity/Materials",
Edited By: **A. Meghdari**, E. Esmailzadeh
- [3] • **Volume Three:** "Heat and Mass Transfer/Fluid Mechanics/Energy Conversion",
Edited By: M. S. Sadeghipour, M. N. Bahadori, **A. Meghdari**
- [4] • "**Introduction to Robotics: Mechanics and Control**", New York: Addison-Wesley Pub.,
By: J. J. Craig, 2nd Edition; 1989, and 3rd Edition; 2005.
1) Authorized Translation into Persian, By: **A. Meghdari** & F. Mirfakhraee, S.U.T. Press,
Tehran, (2nd Ed. Translation), 1st Print; 1996, 2nd Print; 1998, 3rd Print 2005.
2) Authorized Translation into Persian, By: **A. Meghdari** & F. Mirfakhraee, M. Akrami, and
E. Shojaei, S.U.T. Press, Tehran, (3rd Ed. Translation), 1st Print; 2009.

Proceedings of the "**7th Annual ISME Conference**", April 14-16, 1999, Zahedan, Iran.

- [5] • **Volume Three:** "Dynamical Systems and Vibration, Biomechanics, and Manufacturing",
Edited By: A. Farzad, **A. Meghdari**, M. Haghpanahi
- [6] • "**Technical English for Mechanical Engineers**", Sharif University of Technology Press
By: M. Alemi, **A. Meghdari**, 1st Edition; 1394 (2015).

SCIENTIFIC PUBLICATIONS: in Peer Reviewed International Journals and Conferences

1986:

- [1] M. Shahinpoor, and **A. Meghdari**, "Combined Flexural-Joint Stiffness Matrix and the Elastic Deformation of a Servo-Controlled Two-Link Robot Manipulator", **ROBOTICA Int. Journal**, Vol. 4, pp. 237-242, 1986. Also presented at the 10th U.S. National Congress of Applied Mech., Proc. of Abstracts, F6, June 16-20, 1986, Austin, TX, USA.

1987:

- [2] **A. Meghdari**, M. Shahinpoor, "Elastic Deformation Characteristics of a PUMA-560 Robot Manipulator", **Int. Journal of Robotics & Automation**, Vol. 2, No.1, pp. 26-31, 1987.
- [3] **A. Meghdari**, and B.C. Chiou, "A Comparative Survey of Robot Manipulator Dynamics", Proc. of the 9th IEEE-ISE Conf. & Symp., pp.50-58, May 5-7, 1987, Albuquerque, NM, USA.

1988:

- [4] **A. Meghdari**, and M. Shahinpoor, "Three-Dimensional Flexural-Joint Stiffness Analysis of Flexible Manipulator Arms", **ROBOTICA Int. Journal**, Vol. 6, pp. 203-212, 1988.
- [5] **A. Meghdari**, C.P. Keddy, T.J. Beugelsdijk, R.F. Ford, "A Systematic Approach to Robotics Testing and Evaluation", Proc. of the ISMM Int. Conference on Computer Applications in Design, Simulation, and Analysis, pp. 161-167, February 1-3, 1988, Honolulu, HI, USA.

1989:

- [6] **A. Meghdari**, and M. Shahinpoor, "Generalized Kinematical Analysis of N-Axis Flexible Manipulator Arms Via (4 x 4) Homogeneous Transformations", Proc. of the ANS (American Nuclear Society) 3rd Topical Meeting on Robotics and Remote Systems, Sect.11-5, pp.1-8, March 13-16, 1989, Charleston, SC, USA.
- [7] **A. Meghdari**, M. Mahmoudian, M. Arefi, "Kinematics and Dynamics Modeling of the Sharif Artificial Hand", Advances in Bioengineering: Proc. of the 1989 ASME Winter Annual Meeting,

pp. 57-58, December 10-15, 1989, San Francisco, CA, USA.

- [8] **A. Meghdari**, "On the Establishment of the First Robotics and CAD/CAM Research Labs in Iran", (in Persian), Sharif University of Technology Research Proc., pp.104-106, 1989, Iran.

1990:

- [9] "Elastic Deformation Characteristics and Constitutive Equations of Light-Weight Flexible Manipulators", Book, By: A. Meghdari, University Microfilms International, 1990, USA.
- [10] **A. Meghdari**, "Dynamics Simulation Algorithms of Industrial Robots", **AMIRKABIR Journal of Science and Engineering**, Vol. 4, No. 15, pp. 79-90, 1990.
- [11] **A. Meghdari**, M. Arefi, M. Mahmoudian, "Biomechanical Aspects of the Sharif Artificial Hand", (in Persian), **PAZHOOHESH: The Journal of Research in Science & Technology**, Vol. 9, No. 18, pp. 59-67, 1990.
- [12] **A. Meghdari**, "Computer Animation of the PUMA-560 Industrial Robot Kinematics", **Int. Journal of Mechanical Engineering**, IUST Press, Vol. 1, No.2a, pp.111-119, 1990.
- [13] **A. Meghdari**, and M. Shahinpoor, "Modeling Flexibility Effects in Robotics Arms via the Modified 4 x 4 D-H Homogeneous Transformations", **Int. Journal of Engineering**; Vol. 3, No. 3 & 4, pp. 124-133, 1990.
- [14] M. Arefi, M. Mahmoudian, and **A. Meghdari**, "Biological Studies of the Human Hand", (in Persian), Proc. of the 1st National Conference on Research and Developments in Biomedical Engineering, January 3-4, 1990, Tehran, Iran.
- [15] **A. Meghdari**, "Computer Graphics Simulation of an Industrial Robot", Proc. of the 10th Symp. on Engr. Applications of Mechanics, pp. 371-376, May 27-30, 1990, Kingston, Canada.
- [16] **A. Meghdari**, "Elastic Manipulators Actuated by Pneumatic Muscles", Proc. of IASTED Int. Conference in Control and Modeling, pp.484-487, July 17-20, 1990, Tehran, Iran.
- [17] **A. Meghdari**, M. Arefi, and M. Mahmoudian, "Biomechanical Aspects of the Sharif Artificial Hand", Proc. of the IASTED Int. Conf. on Computers and Advanced Tech. in Medicine, Healthcare & Bioengineering, pp. 32-36, August 15-17, 1990, Honolulu, HI, USA.
- [18] **A. Meghdari**, "A Variational Approach for Modeling Flexibility Effects in Manipulator Arms", Proc. of the 16th ASME Design Automation Conference; Advances in Design Automation, DE-Vol. 23-2, pp. 443-448, September 16-19, 1990, Chicago, IL, USA.
- [19] **A. Meghdari**, "On the Performance of a Solar Cooking System Utilizing Compound Parabolic Concentrators", Proc. of the 1st Int. Conference on Energy Conversion and Energy Sources Engineering, pp. 514-521, October 5-8, 1990, Wuhan, China.
- [20] **A. Meghdari**, and M. Salehi, "General Impact of Robotics and Automation in Radiation Environment", Proc. of the Int. Conference on High Levels of Natural Radiation, MS-110-P1/3, pp. 1-10, November 3-7, 1990, Ramsar, Iran.

1991:

- [21] **A. Meghdari**, "A Variational Approach for Modeling Flexibility Effects in Manipulator Arms", **ROBOTICA Int. Journal**, Vol. 9, pp. 213-217, 1991.
- [22] **A. Meghdari**, M. Mahmoudian, M. Arefi, "Geometric Adaptability: A Novel Mechanical Design in the Sharif Artificial Hand", Proc. of the 1991 ASME Applied Mechanics and Biomechanics Symposium, pp. 219-223, June 16-19, 1991, Columbus, OH, USA.
- [23] **A. Meghdari**, H. Sayyaadi, "Optimization in Trajectory Planning of Multi-Jointed Fingers in Dexterous Hand Designs", Proc. of the 1991 ASME Computers in Engineering Conference, pp. 496-502, August 18-22, 1991, Santa Clara, CA, USA.
- [24] **A. Meghdari**, and R. Davoodi, "Computer Application in the Analysis of Shoulder Dystocia", Proc. of Abstracts; 1st Int. Conference on Computer Applications in Science, Technology and Medicine, pp. 22-23, December 26-28, 1991, Isfahan, Iran.
- [25] **A. Meghdari**, "On the Design of Muscle Actuated Elastic Fingers for Artificial Hands", Proc. of

the AL-Azhar Engineering 2nd International Conference, Vol. VIII, pp.395-400, December 21-24, 1991, Cairo, Egypt.

1992:

- [26] **A. Meghdari**, M. Mahmoudian, and M. Arefi, "Geometric Adaptability: A Novel Mechanical Design in the Sharif Artificial Hand", **Int. Journal of Robotics & Automation**, Vol. 7, No. 2, pp. 80-85, 1992.
- [27] **A. Meghdari**, H. Sayyaadi, "Optimizing Motion Trajectories in Dexterous Fingers By Dynamic Programming Technique", **ROBOTICA Int. Journal**, Vol.10, pp.419-426, 1992.
- [28] **A. Meghdari**, "Biomedical Engineering: A Multi-disciplinary Challenge", (in Persian), **ISME Transactions; Journal of Mechanical Engineering**, Vol.1, No. 1, pp. 66-73, 1992.
- [29] **A. Meghdari**, R. Davoodi, and F. Mesbah, "Engineering Analysis of Shoulder Dystocia in Human Birth Process By Finite Element Methods", Proc. of **I.Mech.E.; Part H, Journal of Engineering in Medicine**, Vol.206, pp. 243-250, 1992.
- [30] **A. Meghdari**, and M. Ghasempouri, "Dynamics Simulation of Flexible Manipulators by Lagrangian & Finite Element Methods", Proc. of the 1st Int. Conference on Engineering Applications of Mechanics, pp. 282-297, June 9-12, 1992, Tehran, Iran.
- [31] **A. Meghdari**, and R. Davoodi, "Engineering Analysis of Shoulder Dystocia in Human Birth Process by Finite Element Method", Proc. of the 1st Int. Conference on Engineering Applications of Mechanics, pp. 68-76, June 9-12, 1992, Tehran, Iran. Also presented at the 1992 Biomechanics Seminar, Chalmers University of Technology, Gotenburg, Sweden.
- [32] M. J. Asadi, **A. Meghdari**, "Role of Engineers in Hospitals Operation", Proc. of the 1st Int. Conf. on Engineering Applications of Mechanics, pp. 106-112, June 9-12, 1992, Tehran, Iran.
- [33] S. Raghibi-Zadeh, and **A. Meghdari**, "Design and Fabrication of an I/O Interface Board for Control Applications Utilizing IBM-PC'S", (in Persian), Proceedings of the 2nd Annual AZARAB Engineering Conference, pp. 285-296, August 21-23, 1992, Arak, Iran.
- [34] **A. Meghdari**, and S. Raghibi-Zadeh, "Simulation and a Comparative Analysis of Position & Force Control Techniques in Robotics", Proc. of the 4th Int. Symposium on Robotics & Manufacturing, ASME Press, pp. 229-237, November 11-13, 1992, Santa-Fe, NM., USA.

1993:

- [35] **A. Meghdari**, M. Jafarian, M. Shahinpoor, and M. Mojarrad, "Polymer Gels and Artificial Muscles; Current Research & Developments", (in Persian), **Sharif Journal of Science & Research**, Vol. 9, No. 4, pp. 49-54, 1993.
- [36] **A. Meghdari**, M. Mojarrad, and M. Shahinpoor, "Exploring Artificial Muscles as Actuators for Artificial Hands", Proc. of the 1993 ASME Design Conf., DE-Vol. 58, pp. 21-26, September 19-22, 1993, Albuquerque, NM.. Also presented at the 1st Joint ASCE/ASME/SES Conf., Proc. of the Abstracts, pp. 57, June 6-9, 1993, Charlottesville, VA., USA.
- [37] **A. Meghdari**, M. Jafarian, M. Shahinpoor, and M. Mojarrad, "Polymer Gels and Artificial Muscles; A Bioengineering Overview", (in Persian), Proc. of the 5th Biomedical Engineering Seminar, pp.78-88, January 5-7, 1993, Tehran, Iran.

1994:

- [38] **A. Meghdari**, and M. Ghasempouri, "Dynamics of Flexible Manipulators", **Int. Journal of Engineering**; I.R. Iran, Vol. 7, No.1, pp. 19-32, February 1994.
- [39] **A. Meghdari**, "Design Characteristics of The Dual-Arm Cam-Lock Robot Manipulator", (in Persian), **ESTEGHLAL: Journal of Research in Engineering & Technology**, Vol. 13, No.1, pp. 1-25, September 1994.
- [40] **A. Meghdari**, "Conceptual Design and Characteristics of a Dual-Arm Cam-Lock Manipulator", Proc. of the ASCE SPACE-94; Robotics for Challenging Environment Conference, pp.140-148, Feb. 26-March 3, 1994, Albuquerque, N.M., USA.

- [41] **A. Meghdari**, "The Cooperative Dual-Arm Cam-Lock Manipulators", Proc. of the IEEE Int. Conf. on Robotics & Automation, Vol. 2, pp.1279-1285, May 8-13,1994, San-Diego,CA, USA.
- [42] **A. Meghdari**, and F. Aghili, "Mechanical Design of a Modular Arm Prosthesis", Proc. of the IEEE-EMBS Engineering in Medicine & Biology Conference, Vol. 1, pp. 484-485, November 3-6, 1994, Baltimore, MD., USA.

1995:

- [43] F. Aghili, and **A. Meghdari**, "Mechanical Design of a Modular Arm Prosthesis", **Int. Journal of Robotics & Automation**, Vol. 10, No. 1, pp. 22-28, February 1995.
- [44] **A. Meghdari**, Gh. R. Vosoughi, A. Sekhavat, "Minimizing the Amplitude of Oscillation of an Object Suspended from the End-Effector of a Robot Manipulator", (in Persian), **ESTEGHLAL: Journal of Research in Engineering & Technology**, Vol. 14, No.1,pp.57-67, September 1995.
- [45] S. A. Fazelzadeh, and **A. Meghdari**, "A Closed-Form Formulation of the Dynamical Equations of N-Axis Planar Manipulators", (in Persian), **AMIRKABIR Journal of Science and Engineering**, Vol. 8, No. 29, pp. 11-20, Fall 1995.
- [46] **A. Meghdari**, A. Asghar Asadi, and A. Akbar Asadi, "On the Design of a Robotics Knotting Mechanism to Automate the Traditional Persian Carpet Weaving", (in Persian), **AMIRKABIR Journal of Science & Engineering**, Vol. 8, No. 30, pp. 102-112, Winter 1995.
- [47] M.H. Kargarnovin, S. Sarjami, **A. Meghdari**, and E. Akhavan Niaki, "Computer Simulation of Installing an Orthodontic Appliance on Teeth", Proc. of the 1995 CANCEM Conference, Vol. 2, pp. 750-751, May 28-June 2, 1995, Victoria, BC., Canada.
- [48] **A. Meghdari**, and F. Mirfakhraei, "Smart Materials and Structures", (in Persian), Research Proc. of the Sharif University of Technology, pp. 578-600, January 1995, Iran.
- [49] **A. Meghdari**, and A. Sekhavat, "Oscillation-Free Transport of a Suspended Object from the End Effector of a Robot Manipulator", Proc. of the the 1995 IASTED Int. Conf. on Robotics and Manufacturing, June 14-17, 1995, Cancun, Mexico.
- [50] **A. Meghdari**, and R. Davoodi, "Applying Engineering Tools to Analyze the Human Birth Process", Proc. of the 1995 ASME/AICHE/ASCE Summer Bioengineering Conference, pp. 107-108, June 28-July 2, 1995, Beaver Creek, CO., USA.
- [51] **A. Meghdari**, A. Akbar Asadi, and A. Asghar Asadi, "Conceptual Design of a Robotics Knotting Mechanism to Automate the Traditional Persian Carpet Weaving", (in Persian), Research Proc. of the Sharif University of Technology, pp. 601-619, 1995, Iran.

1996:

- [52] **A. Meghdari**, "Conceptual Design and Dynamics Modeling of a Dual-Arm Cam-Lock Manipulator", **ROBOTICA Int. Journal**, Vol. 14, No. 4, pp.301-309, May 1996.
- [53] F. Fahimi, **A. Meghdari**, B. Ravani, "A Method for Decoupling of the Equations of Motion of Multi-Rigid-Body Systems", (in Persian), Proc. of the 4th Annual ISME Mechanical Engineering Conference, May 14-17, 1996, pp. 707-715, Shiraz, Iran.
- [54] S. A. Fazelzadeh, and **A. Meghdari**, "A Closed-Form Formulation of the Dynamical Equations of N-Axis Planar Manipulators", Proc. of the 4th Int. Conf. on Control, Automation, Robotics and Vision, December 4-6, 1996, pp. 1830-1835, Singapore.

1997:

- [55] **A. Meghdari**, "A Comparative Survey of Higher Education Expenses in Engineering Fields in Developed Countries with Iran", (in Persian), **Sharif Journal of Science & Research**, Vol. 13, No. 4, pp. 24-28, December 1997.
- [56] **A. Meghdari**, and A. A. Mahdavi-Jalal, "Minimizing Amplitude of Oscillation of a Flexible Beam During Transport by a Robot", Proc. of the 5th Annual ISME Mechanical Engineering Conf., 1997, Tabriz, Iran.
- [57] **A. Meghdari**, and F. Fahimi, "Modeling a Robot with Flexible Joints and Decoupling its

Equations of Motion", CD Proc. of the 1997 ASME Design Engineering Technical Conferences, VIB-4209, September 14-17, 1997, Sacramento, CA., USA.

- [58] **A. Meghdari**, and F. Fahimi, "Dynamics Modeling of Elastic Multibody Systems Using Kane's Method as Applied to a Flexible Robot", CD Proc. of the 1997 ASME Design Engr. Tech. Conferences, DAC-4004, September 14-17, 1997, Sacramento, CA., USA.

1998:

- [59] **A. Meghdari**, and F. Fahimi, "Modeling a Robot with Flexible Joints and Decoupling its Equations of Motion" (in Persian), **ESTEGHLAL: Journal of Research in Engineering & Technology**, Vol. 16, No. 2, pp. 17-28, March 1998.
- [60] **A. Meghdari**, and M. Khazraie, "Solving Non-Linear Dynamics Model of Joints in Human Body", (in Persian), **AMIRKABIR Journal of Science & Engineering**, Vol. 9, No. 36, pp. 471-485, Winter 1998.
- [61] **A. Meghdari**, F. Barazandeh, "Design and Fabrication of a Series of Modular Robotics Grippers Equipped with a Quick Change System", (in Persian), Proc. of the 1st Annual Seminar on Robotics, Automation & Control, May 20-21, 1998, pp.207-222, Tabriz, Iran.

1999:

- [62] **A. Meghdari**, and F. Barazandeh, "Design and Fabrication of a Novel Quick-Change System", Proc. 2nd World Manufacturing Congress (WMC'99), pp. 147-153, Sept. 27-30, 1999, U.K.
- [63] **A. Meghdari**, and F. Fahimi, "Dynamics Modeling of Multi-Elastic Body Systems Using Kane's Method and Congruency Transformations", **Int. Journal of TECHNISCHE MECHANIK**, Band 19, Heft 2, pp. 127-140, June 1999.
- [64] **A. Meghdari**, M. Durali, D. Naderi, "Kinematics & Dynamics Modeling and Analysis of a 1-DOF Mobile Manipulator Attached on a Moving Base", (in Persian), Proc. of the 7th Annual ISME Conf., April 14-16, 1999, Vol. 3, pp. 1327-1337, Zahedan, Iran.
- [65] **A. Meghdari**, and F. Fahimi, "A Novel Approach for Decoupling of Dynamical Equations of Flexible Manipulators", CD Proc. of the 1999 ASME Design Engineering Technical Conferences, DAC-8556, September 12-15, 1999, Las Vegas, NV, USA.

2000:

- [66] **A. Meghdari**, and F. Barazandeh, "Design and Fabrication of a Novel Quick-Change System", **Int. Journal of Mechatronics**, Vol. 10, pp. 809-818, 2000.
- [67] **A. Meghdari**, M. Durali, and D. Naderi, "Investigating Dynamic Interactions Between the Manipulator and Vehicle of a Mobile Manipulator", **Journal of Intelligent and Robotics Systems**, Vol. 28, pp. 277-290, 2000. Also Proc. of the 1999 ASME Int. Mechanical Engineering Conference, DE-Vol. 101, pp. 61-67, November 14-19, 1999, Nashville, TN, USA.
- [68] **A. Meghdari**, and F. Fahimi, "First Order Decoupling of Equations of Motion for Multibody Systems Consisting of Rigid and Elastic Bodies", **IRANIAN Journal of Science & Technology**, Vol. 24, No. 3, Transaction B, pp. 333-343, Summer 2000.
- [69] **A. Meghdari**, M. Durali, D. Naderi, "Kinematics & Dynamics Analysis of a Planar Mobile Manipulator", Presented at the 4th World Automation Congress, WAC-2000, June 11-15, 2000, Maui, HI, USA.
- [70] D. Naderi, **A. Meghdari**, M. Durali, , "Dynamics Modeling and Analysis of a Two D.O.F. Mobile Manipulator", CD Proc. of the ASME 2000 Design Engineering Technical Conferences, September 10-13, 2000, Baltimore, Maryland, USA.

2001:

- [71] **A. Meghdari**, and F. Fahimi, "On the First Order Decoupling of Dynamical Equations of Motion for Elastic Multibody Systems as Applied to a Two-Link Flexible Manipulator", **Journal of Multibody System Dynamics**, Vol. 5, No. 1, pp. 1-20, February 2001.
- [72] D. Naderi, **A. Meghdari**, M. Durali, , "Dynamics Modeling and Analysis of a Two D.O.F. Mobile

Manipulator”, **ROBOTICA Int. Journal**, March 2001.

- [73] **A. Meghdari**, M. Afrough, “Calibration of a 5-DOF Manipulator Using an Adapted Kalman Filter”, Proc. of 5th Int. & 9th ISME Annual Mechanical Engineering Conf., May 27-29, 2001, Iran.
- [74] **A. Meghdari**, A. A. Forough-Nasiraei, R. Narimani, “On the Design, Simulation, and Fabrication of a Hospital Robot-Nurse”, Proc. of the 5th Int. & 9th ISME Annual Mechanical Engineering Conf., May 27-29, 2001, Guilan, Iran.
- [75] **A. Meghdari**, M. S. Sadeghipour, A. Khanicheh, and A. Tehranian, “Dynamic Modeling and Analysis of an Underwater Manipulator”, CD Proc. of the ASME-IMECE Congress, FED, November 20-26, 2001, New York, USA. (Received: ASME’s Best Student Paper Award).
- [76] **A. Meghdari**, A. H. Bahrami, “Mathematical Modeling of Normal, Degenerated, and Fused Cervical Spines Using IAR’s Concept”, CD Proc. of the ASME-IMECE Congress, BES-Vol. 51, Advances in Bioengineering, November 11-16, 2001, New York, USA.

2002:

- [77] **A. Meghdari**, M. Afrough, “A Robust Formulation for Calibration of Articulated Robots”, **ISME Transactions; Journal of Mechanical Engineering**, Vol. 3, No. 1, pp. 5-16, March, 2002.
- [78] **A. Meghdari**, G. R. Vossoughi, M. Amir-Hosseini, “Modeling and Simulation of an Underwater Vehicle Equipped with a Manipulator Arm”, Proc. of the IASTED Int. Conf. On Applied Simulation and Modeling, pp. 162-167, June 25-28, 2002, Crete, Greece. Also presented at the 6th ISME Int. Mechanical Engineering Conference, May 24-28, 2002, Tehran, Iran.
- [79] N. Sadati, **A. Meghdari**, N. Dadkhah Tehrani, “Optimal Tracking Neuro-Controller in Satellite Attitude Control”, Proc. IEEE Int. Conference on Industrial Technology, December 11-14, 2002, Bangkok, Thailand.
- [80] F. Farahmand, **A. Meghdari**, R. Narimani, “Modeling of Muscle and Joint Forces at the Knee Joint during Stand up from the Sitting State”, **Sharif Journal of Science & Research**, Vol. 22, pp. 66-72, September 2002.

2003:

- [81] A. Jafari, **A. Meghdari**, F. Farahmand, “A Novel Approach to Curve-Fit Measured Data for the Surface Geometry of a Joint”, Proc. of the 11th ISME Annual Mechanical Engineering Conf., May, 2003, Iran.
- [82] **A. Meghdari**, M. Aryanpour, “Dynamics Modeling and Analysis of the Human Jumping Process”, CD Proc. Of the ASME-IMECE Congress, DSC, November 17-22, 2002, New Orleans, LA, USA, **Journal of Intelligent and Robotics Systems**, Vol.37, pp. 97-115, 2003.
- [83] M. Nakhaee Nejad, **A. Meghdari**, D. Naderi, “Modeling and Dynamics Analysis of Snake-Like Robot Manipulators”, Proc. of the 11th ISME Annual (International) Mechanical Engineering Conf., Vol. 4, pp. 2026-2033, May, 2003, Iran.
- [84] G. R. Vossoughi, **A. Meghdari**, H. Borhan, “Dynamics Modeling and Controller Design of an UROV Equipped with a Two-Link Arm”, Proc. of the 11th ISME Annual (International) Mechanical Engineering Conf., Vol. 4, pp. 1998-2006, May, 2003, Iran.
- [85] **A. Meghdari**, G. R. Vossoughi, M. Amir Hosseini, “An Articulated Body Algorithm for Modelling and Simulation of an Underwater Vehicle Equipped with Manipulator Arm”, CD Proc. of the ASME 2003 International Design Engineering Technical Conferences and the Computers and Information in Engineering Conference (DETC'03), September, 2003, Chicago, IL., USA.
- [86] R. Ravani, **A. Meghdari**, B. Ravani, “Robot Trajectory Planning by Spherical and Spatial Rational Motions”, Proc. of the 11th ISME Annual (International) Mechanical Engineering Conf., Vol. 6, pp. 533-539, May, 2003, Iran.
- [87] R. Ravani, **A. Meghdari**, B. Ravani, “Architecture of Distributed Robotics Framework for Universal Access”, Proc. of the 11th ISME Annual (International) Mechanical Engineering Conf., Vol. 6, pp. 541-547, May, 2003, Iran.

[88] M. R. Alam, **A. Meghdari**, D. Naderi, "Optimally Stable Mobile Manipulator Path Planning Using Genetic Algorithm", Proc. of the 11th ISME Annual (International) Mechanical Engineering Conf., Vol. 6, pp. 548-555, May, 2003, Iran.

2004:

- [89] **A. Meghdari**, A. H. Bahrami, "A Biomechanical Model to Analyze Normal, Degenerated, and Fused Cervical Spines Using IAR's Concept", **IRANIAN Journal of Science & Technology**, Transaction B, Vol. 28, No. B4, pp.423-433, 2004.
- [90] **A. Meghdari**, D. Naderi, M.R. Alam, "Tipover Stability Estimation for Autonomous Mobile Manipulators Using Neural Network", CD Proc. Japan-USA Symposium on Flexible Automation (JUSFA), July 19-21 , 2004, Denver, Colorado, USA.
- [91] **A. Meghdari**, D. Naderi, M. R. Alam, "Real-Time Compensatory Manipulator Motion Planning for Stabilizing a Mobile Manipulator", Submitted to the **Journal of Intelligent & Robotics Systems**, April, 2004.
- [92] R. Ravani, **A. Meghdari**, B. Ravani, "Rotation Minimizing Frames and Frenet Serret Frames of Spatial Curves", CD Proc. of the 8th ISME International Mechanical Engineering Conf., April, 2004, Iran.
- [93] G. R. Vossoughi, **A. Meghdari**, H. A. Borhan, "Dynamics Modeling and Robust Control of an Underwater ROV Equipped with a Robotic Manipulator Arm", CD Proc. Japan-USA Symposium on Flexible Automation (JUSFA), July 19-21 , 2004, Denver, Colorado, USA.
- [94] M.R. Eshraghi, F. Samiee, **A. Meghdari**, "Wear Analysis of a Gearbox using Oil Analysis", CD Proc. of the 12th ISME Annual Mechanical Engineering Conf., April, 2004, Iran.
- [95] **A. Meghdari**, F. Amiri, S.H. Mahboobi, A. Lotfi, A. Baghani, H.N. Pishkenari, R. Karimi, Y. Khalighi, "Design and Fabrication of a Mobile Robot for Rescue Applications", CD Proc. of the 12th ISME Annual Mechanical Engineering Conf., April, 2004, Iran.
- [96] R. Ravani, **A. Meghdari**, B. Ravani, "Variational Smooth Motion Design using Machine Vision Registration", CD Proc. of the 8th ISME Int. Mechanical Engineering Conf., April, 2004, Iran.
- [97] M. Nakhaee Nejad, **A. Meghdari**, D. Naderi, "Dynamic Motion Analysis of a Snake-Like Robot on a Sloped Surface using Neural Network", CD Proc. of the 12th ISME Annual Mechanical Engineering Conf., April, 2004, Iran.
- [98] A. Kiapour, **A. Meghdari**, M. Parnianpour, "Modeling and Analysis of Spine Muscles in Back when Creating Stability at the Presence of External Forces", Proc. of the **11th Iranian Biomedical Engineering Conf.**, pp. 1-7, February, 2004, Iran.
- [99] **A. Meghdari**, H. Hosseinkhannazer, A. Selkghafari, "An Optimum Design and Simulation of an Innovative Mobile Robotic Nurse Unit to Assist Paraplegic Patients" CD Proc. IEEE-ICM Int. Conference on Mechatronics, June 3-5, 2004, Istanbul, Turkey.
- [100] R. Ravani, **A. Meghdari**, B. Ravani, "Robot Trajectory Planning using Rotational Frenet-Serret Curves", CD Proc. of the 7th Biennial ASME Conference on Engineering Systems Design and Analysis (ESDA), July, 2004, Manchester, UK.
- [101] **A. Meghdari**, S. H. Mahboobi, A.L. Gaskarimahalle, "Modeling of CEDRA Rescue Robot on Uneven Terrains", Proc. of the 2004 ASME International Mechanical Engineering Congress, Anaheim, CA, **USA**.
- [102] **A. Meghdari**, R. Karimi, H.N. Pishkenari, A.L. Gaskarimahalle, S. H. Mahboobi, "An Effective Approach for Dynamic Analysis of Rovers", Proc. of the 7th Biennial ASME Conference on Engineering Systems, Design and Analysis (ESDA), July 2004, Manchester, UK.
- [103] M. Khalaj Amir Hosseini, M. Banae, **A. Meghdari**, "A Composite Rigid Body Algorithm for Modeling and Simulation of an Underwater Vehicle Equipped with Manipulator Arms", Proc. of the OMAE04 23rd Int. Conf. on Offshore Mechanics and Arctic Engineering, June 2004, Vancouver, B.C., Canada.
- [104] A. Selk Ghafari, M. Behzad, **A. Meghdari**, "Experimental Investigation on the Effects of Random

Signals on Micro-Step Control Positioning Accuracy”, Proc. of the MECHATRONICS 2004: The 9th Mechatronics Forum Int. Conference, pp. 477-485, August 2004, Ankara, Turkey.

- [105] D. Naderi, **A. Meghdari**, M. Durali, “Motion Analysis of a Manipulator Mounted on a Vehicle with Suspension System”, **Sharif Journal of Science & Research**, pp. 3-9, Spring 2004.
- [106] **A. Meghdari**, D. Naderi, S. Eslami, “Stability Analysis of Mobile Manipulator Using Genetic Algorithm Approach”, Proc. of the 1st International Conference on Modeling, Simulation, and Applied Optimization, Sharjah, , February 1-3, 2005, U.A.E..
- [107] **A. Meghdari**, M. Nakhaei Nejad, D. Naderi, S. Eslami, “Motion Planning of a 10 DOF Snake Robot by Neural Network”, Proc. of the 1st International Conference on Modeling, Simulation, and Applied Optimization, Sharjah, February 1-3, 2005, U.A.E..
- [108] **A. Meghdari**, R. Karimi, H. N. Pishkenari, S. H. Mahboobi, A. L. Gaskarimahalle, “Dynamic Analysis of Rovers using Kane’s Approach”, Proc. of the 13th Annual (International) Mechanical Engineering Conference, May 2005, Isfahan, Iran.
- [109] **A. Meghdari**, H. Hosseinkhannazer, A. Selkghafari, “Optimization and Dynamic Simulation of a Nurse Robot in Hospital Environments using Genetic Algorithm” CD Proc. 2nd Int. Conf. on Autonomous Robots and Agents, December 13-15, 2004, Palmerstone North, New Zealand.

2005:

- [110] B. Mehri, **A. Meghdari**, M.R. Eshraghi, “Analytical Solution of Mass Equation, Nonlinear Spring and Damping with Effective Wind Force Under Dynamical Load”, **Journal of Faculty of Engineering, University of Tehran**, Vol. 39, No. 1, pp. 9-13, May 2005.
- [111] **A. Meghdari**, S. Sohrabpour, S.A. Nezamoddini, E.F. Izadi, S.H. Tamaddoni, “Dynamics Modeling of a Humanoid Robot”, CD Proc. of the ASME 2005 International Design Engineering Technical Conferences and the Computers and Information in Engineering Conference (DETC'05), September 24-28, 2005, Long Beach, CA., USA.
- [112] H. N. Pishkenari, N. Jalili, A. Alasty, and **A. Meghdari** “Non-Linear Dynamics Analysis and Chaotic Behavior in Atomic Force Microscopy”, CD Proc. of the ASME 2005 Int. Design Engineering Technical Conferences and the Computers and Information in Engineering Conference (DETC'05), September 24-28, 2005, Long Beach, CA., USA.
- [113] **A. Meghdari**, D. Naderi, M. R. Alam, “Neural-Network Based Observer for Real-Time Tipover Estimation”, **Journal of MECHATRONICS**, Vol. 15, pp.989-1004, 2005.
- [114] M.R. Eshraghi, B. Mehri, **A. Meghdari**, “Analytical Solution of Mass Equation, Nonlinear Spring with Effective Wind Force Under Dynamical Load”, **Sharif Journal of Science & Research**, No. 29, pp. 3-6, Spring 2005.
- [115] M. Behzad, **A. Meghdari**, A. Ebrahimi, “A Continuous Model for Forced Vibration Analysis of a Cracked Beam”, CD Proc. of the 2005 ASME International Mechanical Engineering Congress, Orlando, FL, November 5-11, 2005, USA.
- [116] M. Behzad, **A. Meghdari**, A. Ebrahimi, “A New Approach for Vibration Analysis of a Cracked Beam”, **Int. Journal of Engineering**, Vol. 18, No. 4, pp. 319-329, 2005.
- [117] A. Selk-Ghafari, **A. Meghdari**, “Robust Backstepping Control of Robotic Nurse Unit to Assist Paraplegic Patients”, CD Proc. of the 2005 ASME Int. Mechanical Engineering Congress, Orlando, FL, November 5-11, 2005, USA.
- [118] H. N. Pishkenari, N. Jalili, **A. Meghdari**, “Acquisition of High Precision Images for Non-contact Atomic Force Microscopy via Direct Identification of Sample Height”, CD Proc. of the 2005 ASME Int. Mechanical Engineering Congress, Orlando, FL, November 5-11, 2005, USA.
- [119] **A. Meghdari**, R. Karimi, H. N. Pishkenari, A. L. Gaskarimahalle, S. H. Mahboobi, “An Effective Approach for Dynamic Analysis of Rovers”, **ROBOTICA Int. Journal**, Vol. 23, pp. 771-780, 2005. Also in Proc. of the 13th Int. Conference of Mechanical Engineering (ISME), May 17-19, 2005, Isfahan, Iran.
- [120] A. Jafari, F. Farahmand, **A. Meghdari**, “Surface Modeling of Complicated Geometries with

Incomplete Erroneous Data Point-An Extension to B-Spline Approach”, Proc. of 2005 IEEE Int. Engineering in Medicine & Biology 27th Annual Conf., September 1-4, 2005, Shanghai, China.

- [121] **A. Meghdari**, H. N. Pishkenari, A. L. Gaskarimahalle, S. B. Ghaemi Oskouei, "An Applied form of Kane's Equations of Motions", CD Proc. of the ASME 2005 Int. Design Engineering Technical Conferences and the Computers and Information in Engineering Conference (DETC'05), September 24-28, 2005, Long Beach, CA., USA.
- [122] **A. Meghdari**, F. Amiri, S. H. Mahboobi, A. Lotfi Gaskarimahalle, A. Baghani, H. Nejat Pishkenari, R. Karimi, Y. Khalighi, "Design and Fabrication of "CEDRA" Rescue Robot with Special Capabilities" (in Persian), **Sharif Journal of Science & Research**, No. 31, pp. 29-37, Fall 2005.

2006:

- [123] R. Ravani, **A. Meghdari**, "Velocity Distribution Profile for Robot Arm Motion using Rational Frenet-Serret Curves", **Journal of INFORMATICA, Institute of Mathematics & Informatics**, Vol. 17, No. 1, pp. 69-84, 2006.
- [124] H. N. Pishkenari, N. Jalili, **A. Meghdari**, "Acquisition of High-precision Images for Non-contact Atomic Force Microscopy", **Journal of MECHATRAONICS**, Vol. 16, pp. 655-664, 2006.
- [125] A. Ghaffari, **A. Meghdari**, D. Naderi, S. Eslami "Stability Enhancement of Mobile Manipulators via Soft Computing", **Int. Journal of Advanced Robotic Systems**, Vol. 3, No. 3, pp. 191-198, 2006.
- [126] M. Khalaj Amir Hosseini, O. Omid, **A. Meghdari**, Gh. R. Vossoughi, "A Composite Rigid Body Algorithm for Modeling and Simulation of an Underwater Vehicle Equipped with Manipulator Arms", **ASME Journal of Offshore Mechanics and Arctic Engineering**, Vol. 128, pp. 119-132, 2006.
- [127] **A. Meghdari**, H. N. Pishkenari, A. L. Gaskarimahalle, S. H. Mahboobi, R. Karimi, "A Novel Approach for Optimal Design of a Rover Mechanism", **Journal of Intelligent & Robotics Systems**, Vol. 44, pp. 291-312, 2006.
- [128] A. Jafari, F. Farahmand, **A. Meghdari**, A. S. Golestanha, "A New Approach to C Continuous Piecewise Bicubic Representation of Articular Surfaces of Diarthrodial Joints", **Proc. of I.Mech.E.; Part H, Journal of ENGINEERING IN MEDICINE**, Vol. 220, pp. 1-11, 2006.
- [129] A. Ghaffari, **A. Meghdari**, D. Naderi, S. Eslami, "Planning of Dynamic Compensation Manipulator Motions for Stability Enhancement of Mobile Manipulators by Soft Computing", CD Proc. of the 2006 ASME International Mechanical Engineering Congress, Chicago, IL., November 5-10, 2006, USA.
- [130] H. Tavakkoli Nia, H. N. Pishkenari, **A. Meghdari**, "A Recursive Approach for the Analysis of Snake Robots using Kane's Equations", **ROBOTICA Int. Journal**, Vol. 24, pp. 251-156, 2006.
- [131] **A. Meghdari**, S. Sohrabpour, K. G. Osgouie, "Optimal Configuration of a Plannar Dual Arm System Based on Task-Space Manipulability", CD Proc. of the 2006 ASME International Mechanical Engineering Congress, Chicago, IL., November 5-10, 2006, USA.
- [132] **A. Meghdari**, D. Naderi, S. Eslami, "Optimal Stability of a Redundant Mobile Manipulator via Genetic Algorithm", **ROBOTICA Int. Journal**, Vol. 24, pp. 739-743, 2006.
- [133] F. Amiri, S. H. Mahbbobi, H. N. Pishkenari, **A. Meghdari**, "Modal Analysis of Metallic Nanocantilever with FCC Lattice using Atomic Approximation Method", CD Proc. of the 2006 ASME Int. Mechanical Engineering Congress, Chicago, IL., November 5- 10, 2006, USA.
- [134] S. H. Mahbbobi, A. Abedian, A. Shahidi, **A. Meghdari**, "Closed-Loop Finite Element Modeling for Analysis of Smart Structures in ANSYS Environment", CD Proc. of the 2006 ASME Int. Mechanical Engineering Congress, Chicago, IL., November 5-10, 2006, USA.
- [135] H. Tavakoli Nia, H. N. Pishkenari, **A. Meghdari**, "A Recursive Approach for Analysis of Snake Robots Using Kane's Equations", **ROBOTICA Int. Journal**, Vol. 24, No. 2, pp. 251-256, 2006.
- [136] H. N. Pishkenari, M. Behzad, **A. Meghdari**, "Nonlinear Dynamic Analysis of Atomic Force

- Microscopy under Deterministic and Random Excitation", CD Proc. of the 2006 ASME International Mechanical Engineering Congress, Chicago, IL., November 5-10, 2006, USA.
- [137] **A. Meghdari**, S. H. Tamaddoni, F. Jafari, "Synthesis of a Compensated Kick Pattern for Humanoid Robots using Conservation Laws", CD Proc. of the 2006 ASME International Mechanical Engineering Congress, Chicago, IL., November 5-10, 2006, USA.
- [138] **A. Meghdari**, S. H. Mahboobi, A.L. Gaskarimahalle, "Dynamics Modeling of CEDRA Rescue Robot on Uneven Terrains", **SCIENTIA-IRANICA Int. Journal**, Vol. 13(3), pp. 272-283, 2006.
- [139] A. Mirbagheri, F. Farahmand, **A. Meghdari**, H. Sayyadi, "Optimum Ergonomic Design of a Robot Mechanism to Assist Laproscopic Surgery" (in Persian), Proc. of the 2006 ISME Mechanical Engineering Conference, April 2006, Isfahan, Iran.
- [140] S. K. Sadrnejad, **A. Meghdari**, M.R. Deylami, "Design and Fabrication of an Artificial Esfancter using NiTi Shape Memory Alloy" (in Persian), Proc. of the 2006 ISME Mechanical Engineering Conference, April 2006, Isfahan, Iran.
- [141] H. Tavakoli Nia, S. H. Alemohammad, S. Bagheri, R. H. Khiabani, **A. Meghdari**, "Design, Dynamic Analysis and Optimization of a Rover for Rescue Operations", **Lecture Notes in Computer Science: RoboCup 2005, Springer Berlin/Heidelberg**, Vol. 4020, pp. 290-300, 2006.
- [142] A. Afshari, **A. Meghdari**, "New Form of Jacobian Matrix and Equations of Motion for a 6 D.O.F. Cable-Driven Parallel Robot using Constrained Variables", Proc. of the 2006 17th International DAAAM Symposium, November 8-11, 2006, Vienna, Austria.
- [143] B. Beigzadeh, M. N. Ahmadabadi, **A. Meghdari**, "Kinematical and Dynamic Analysis of Biped Robots' Locomotion using Dynamic Object Manipulation Approach", Proc. of the ESDA 2006, 8th Biennial ASME Conference on Engineering Systems Design and Analysis, July 4-7, 2006, Torino, Italy.
- [144] B. Beigzadeh, M. Nili AhmadAbadi, **A. Meghdari**, "Dynamic Object Manipulation (DOM) of a Sphere Using Two Manipulators", Proc. of the ICMA 2006, IEEE Int. Conference on Mechatronics and Automation, June 25-28, 2006, Luoyang, Henan, China.
- [145] B. Beigzadeh, M. Nili AhmadAbadi, **A. Meghdari**, "Duality of Dynamic Locomotion and Dynamic Object Manipulation", Proc. of the Dynamic Walking 2006 (mechanics and control of human and robot locomotion) Conference, May 6-8, 2006, Ann Arbor, MI, USA.
- [146] B. Beigzadeh, M. Nili AhmadAbadi, **A. Meghdari**, "Path Planning and Control of a Dynamic Object Manipulation System" (in Persian), Proc. of the 2006 ISME Mechanical Engineering Conference, April 2006, Isfahan, Iran.
- [147] A. Selk Ghafari, **A. Meghdari**, G.R. Vossoughi, "Intelligent Control of Powered Exoskeleton to Assist Paraplegic Patients Mobility using Hybrid Neuro-Fuzzy ANFIS Approach", Proc. of the IEEE Int. Conference on Robotics and Biomimetics, Dec. 17-20, 2006, Kunming, China.

2007:

- [148] M. Saghafi, **A. Meghdari**, "Electrical Equivalent Circuit of Multi-Mode Flexible Beams with Piezoelectric Elements", **Journal of Intelligent Materials Systems and Structures**, Vol. 10, July, 2007.
- [149] M. R. Azghani, F. Farahmand, **A. Meghdari**, G. R. Vossoughi, J. Khamseh, F. Hakkak, M. Parnianpour, "A New Apparatus for Triaxial Measurement of Lumbar Moments in Isometric Mode", **Journal of Biomechanics**, Vol. 40, No. 2, 2007.
- [150] S. H. Tamaddoni, A. Alasti, **A. Meghdari**, S. Sohrabpour, H. Salarieh, "Spring-Mass Jumping of Underactuated Biped Robots", CD Proc. of the **ASME 2007 Int. Design Engineering Technical Conferences (IDETC'2007)**, September 4-7, Las Vegas, NV, USA.
- [151] **A. Meghdari**, S. Salahi Moghaddam, "Humanities and Arts: Effective and Essential Agents in Engineering Education", (in Persian) **Iranian Journal of Engineering Education; Iranian Academy of Sciences**, Vol. 8, No. 33, Spring 2007.
- [152] M. Saghafi, N. Jalili, **A. Meghdari**, "Nonlinear Modeling of Piezoelectric Layered Beams", Proc.

of SPIE: *The International Society for Optical Engineering*, Vol. 6525, April 2007, USA.

- [153] Ali Jafari, Farzam Farahmand, **Ali Meghdari**, "The Effects of Trochlear Groove Geometry on Patellofemoral Joint Stability – A Computer Study Model", **Proc. of I.Mech.E., Part H: Journal of ENGINEERING IN MEDICINE**, Vol. 222, pp. 75-88, 2007.
- [154] B. Beigzadeh, **A. Meghdari**, Y. Beigzadeh, "Dealing with Biped Locomotion as a Dynamic Object Manipulation Problem: Manipulating of Body using Legs", Proc. of the IMECE 2007, ASME Int. Mechanical Engineering Congress and Exposition, November 11-15, 2007, Seattle, Washington, USA.
- [155] B. Beigzadeh, **A. Meghdari**, Y. Beigzadeh, "Dynamic Manipulation of Objects Using Multiple Manipulators", Proc. of the IMECE 2007, ASME Int. Mechanical Engineering Congress and Exposition, November 11-15, 2007, Seattle, Washington, USA.
- [156] P. Zandiyeh, C. Lucas, M. T. Ahmadian, **A. Meghdari**, "Comparison of Different Artificially Intelligent Systems for Visual Crack Recognition/Classification". Proc. of the ASME Int. Mechanical Engineering Congress and Exposition, IMECE 2007, November 11- 15, 2007, Seattle, Washington, USA.
- [157] A. Afshari, **A. Meghdari**, "New Jacobian Matrix and Equations of Motion for a 6 D.O.F. Cable-Driven Robot", **Int. Journal of Advanced Robotic Systems**, Vol. 4, No. 1, pp. 63-68, March 2007.
- [158] A. Selk Ghafari, **A. Meghdari**, G.R. Vossoughi, "Modeling of Human Lower Extremity Musculoskeletal Structure using Bond-Graph Approach", Proc. of ASME Int. Mechanical Engineering Congress and Exposition, November 11-15, 2007 Seattle, Washington, USA.
- [159] A. Ghaffari, **A. Meghdari**, D. Naderi, S. Eslami, "Design of an Adaptive Neuro-Fuzzy Controller for Increasing Stability of Mobile Manipulators ", **Int. Journal of Automation, Robotics, and Autonomous Systems**, 2007.

2008:

- [160] A. Jafari, F. Farahmand, **A. Meghdari**, A. S. Golestanha, "The Effects of Trochlear Groove Geometry on Patellofemoral joint Stability-a Computer Model Study", **Proc. of I.Mech.E.; Part H, Journal of Engineering in Medicine**, Vol. 222, No. 1, pp. 75-88, 2008.
- [161] **A. Meghdari**, S. Sohrabpour, D. Naderi, S. H. Tamaddoni, F. Jafari, H. Salarieh, "A Novel Method of Gait Synthesis for Bipedal Fast Locomotion", **Journal of Intelligent and Robotics Systems**, Vol. 53, pp. 101-118, April 2008.
- [162] K. G. Osgouie, **A. Meghdari**, S. Sohrabpour, "Optimal Configuration of Dual Arm Cam-lock Robot Based on Task-Space Manipulability", **ROBOTICA Int. Journal**, pp. 13-18, Vol. 27, April 2008.
- [163] H. N. Pishkenari, M. Behzad, **A. Meghdari**, "Nonlinear Dynamic Analysis of Atomic Force Microscopy under Deterministic and Random Excitation", **Int. Journal of Chaos, Solitons and Fractals**, Vol. 37, pp. 748-762, 2008.
- [164] M. Behzad, **A. Meghdari**, A. Ebrahimi, "A Linear Theory for Bending Stress-Strain Analysis of a Beam with an Edge Crack", **Journal of Engineering Fracture Mechanics**, Vol. 75, pp. 4695-4705, 2008.
- [165] B. Beigzadeh, M. Nili Ahmadabadi, **A. Meghdari**, A. Akbarimajd, "A Dynamic Object Manipulation Approach to Dynamic Biped Locomotion", **Journal of Robotics and Autonomous Systems**, Vol. 56, March 2008.
- [166] A. Selk Ghafari, **A. Meghdari**, Gh. R. Vossoughi, "Dynamic and Uncertainty Analysis of an Exoskeletal Robot to Assist Paraplegics Motion", **Iranian Journal of Mechanical Engineering; Transaction of the ISME**, Vol. 8, No. 2, pp. 5-25, March 2008.
- [167] A. Selk Ghafari, **A. Meghdari**, Gh. R. Vossoughi, "The Effect of Load Carrying on the Human Lower Extremity Muscle Activation During Walking", CD Proc. of the 5th Int. Symp. On Mechatronics and its Applications Engineering Congress, May 2008, Amman, Jordan.

- [168] S. H. Mahboobi, **A. Meghdari**, N. Jalili, F. Amiri, "Two-Dimensional Atomistic Simulation of Metallic Nanoparticles Pushing", CD Proc. of the 5th Int. Symp. On Mechatronics and its Applications (ISMA08) Engineering Congress, May 27-29, 2008, Amman, Jordan.
- [169] H. Nejat Pishkenari, **A. Meghdari**, "Adaptive Backstepping Control of Uncertain Lorenz System", CD Proc. of the 5th Int. Symp. On Mechatronics and its Applications (ISMA08) Engineering Congress, May 27-29, 2008, Amman, Jordan.
- [170] K. G. Osgouie, **A. Meghdari**, S. Sohrabpour, "Optimal Task-Space Manipulability of Hybrid 4-DOF Dual-Arm Cam-Lock Manipulators", CD Proc. of the 5th Int. Symp. On Mechatronics and its Applications (ISMA08) Engineering Congress, May 27-29, 2008, Amman, Jordan.
- [171] A. Selk Ghafari, **A. Meghdari**, Gh. R. Vossoughi, "The Effect of Load Carrying on the Human Lower Extremity Muscle Activation During Walking", CD Proc. of the 5th Int. Symp. On Mechatronics and its Applications Engineering Congress, May 27-29, 2008, Amman, Jordan.
- [172] H. Nejat Pishkenari, **A. Meghdari**, A. E. Hosseini, "Determination of Mechanical Properties of FCC Nano-Beams Based on Molecular Dynamics Simulations", CD Proc. of the 5th Int. Symp. On Mechatronics and its Applications Engineering Congress, May 2008, Amman, Jordan.
- [173] A. Selk Ghafari, **A. Meghdari**, Gh. R. Vossoughi, "Prediction of the Lower Extremity Muscle Forces During Stair Ascent and Descent", CD Proc. of the ASME 2008 Int. Design Engineering Technical Conferences (IDETC'2008), August 3-6, 2008, Brooklyn, NY, USA.
- [174] A. Shariati, **A. Meghdari**, and P. Shariati, "Intelligent Control of an IPMC Actuated Manipulator using Emotional Learning-Based Controller", Proc. of the SPIE Conferences, Vol. 70291J (2008), August 10, 2008, San Diego, CA, USA.
- [175] M. Shahi, **A. Meghdari**, "On the Design of Robotic Fish Based on Lighthill's Small-Amplitude Elongated Body Theory", CD Proc. of the ASME 2008 Int. Mechanical Engineering Congress and Exposition (IMECE'2008), October 31-November 6, 2008, Boston, MA, USA.
- [176] S. H. Mahboobi, **A. Meghdari**, N. Jalili, F. Amiri, "Qualitative Study of Nanocluster Positioning Process: 2D Molecular Dynamics Simulations", CD Proc. of the 2008 ASME Int. Mechanical Engineering Congress and Exposition (IMECE), Nov. 1-6, 2008, Boston, MA, USA.
- [177] A. Shariati, **A. Meghdari**, "Applying Neural Networks to Identify IPMC Polymer Composites Artificial Muscle" (in Persian), Proc. of the ISME 2008 Annual Mechanical Engineering Conference, February 1-4, 2008, Kerman, Iran.
- [178] A. Shariati, **A. Meghdari**, "Dynamics of a Novel Parallel Mechanism Equipped with IPMC Polymer Composites Artificial Muscles" (in Persian), Proc. of the ISME 2008 Annual Mechanical Engineering Conference, February 1-4, 2008, Kerman, Iran.
- [179] **A. Meghdari**, S. H. Mahboobi, M. Sajjadi, H. Nejat Pishkenari, M. Zaman Foroutan, "Design and Fabrication of Ionic Polymer-Metal Composites (IPMC) Microgripper: A Feasibility Study" (in Persian), **Sharif Journal of Science & Technology, Transactions on: Civil and Mechanical Engineering**, Vol. 44, pp. 99-105, November 2008.
- [180] S. Radmard, M. Honarvar, A. Alasty, **A. Meghdari**, H. Zohoor, "Position Control of Ionic Polymer-Metal Composites using Fuzzy Logic", CD Proc. of the 2008 ASME Int. Mechanical Engineering Congress and Exposition (IMECE), November 1-6, 2008, Boston, M.A., USA.

2009:

- [181] **A. Meghdari**, S. Salahi Moghaddam, "Exploring Possibilities of a New Alliance between Humanities and Engineering Education in Iran's Technological Universities", (in Persian), CD Proc. of the 1st National Conference on Engineering Education in 1404 (2025), University of Tehran, 12-13 May, 2009, **Iran. Iranian Journal of Engineering Education**; Iranian Academy of Sciences, Vol. 11, No. 43, Autumn 2009.
- [182] A. Ghaffari, **A. Meghdari**, D. Naderi, S. Eslami, "Enhancement of the tipover stability of mobile manipulators with non-holonomic constraints using an adaptive neuro-fuzzy-based controller", **Proc. of IMechE, Part I, Journal of Systems and Control Engineering**, Vol. 223, No. 2, pp.

201-213, 2009.

- [183] A. Selk Ghafari, **A. Meghdari**, and G. R. Vossoughi, "Forward dynamics simulation of human walking employing an iterative feedback tuning approach", **Proc. of IMechE, Part I, Journal of Systems and Control Engineering**, Vol. 223, No. 2, pp. 289-297, 2009.
- [184] M. Mansouri Boroujeni, **A. Meghdari**, "Haptic Device Application in Persian Calligraphy", Proc. IEEE Int. Conf. on Computer and Automation Engineering", pp. 160-164, Spring 2009, **Taiwan**.
- [185] H. Nejat Pishkenari, **A. Meghdari**, "Simulations of Surface Defects Characterization using Force Modulation Atomic Force Microscopy", CD Proc. of the ASME 2009 Int. Design Engineering Technical Conferences (IDETC'2009), August 30-September 2, 2009, San Diego, CA, USA.
- [186] S. H. Mahboobi, **A. Meghdari**, N. Jalili, F. Amiri, "Qualitative Study of Nanocluster Positioning Process: Planar Molecular Dynamics Simulations", **Current Applied Physics Journal**, Vol. 9, pp. 997-1004, 2009.
- [187] A. Selk Ghafari, **A. Meghdari**, Gh. R. Vossoughi, "Estimation of the Human Lower Extremity Musculoskeletal Conditions during Backpack Load Carrying", **SCIENTIA-IRANICA: Int. Journal, Transaction B: Mechanical Engineering**, Vol. 16. No. 5, pp. 467-486, October 2009.
- [188] H. Nejat Pishkenari, **A. Meghdari**, "Surface Defects Characterization with Frequency and Modulation Atomic Force Microscopy Using Molecular Dynamics Simulations", **Current Applied Physics Journal**, Vol. 10, pp. 583-59, August 2009.
- [189] S. H. Mahboobi, **A. Meghdari**, N. Jalili, "Molecular Dynamics Study of Success Evaluation for Metallic Nanoparticles Manipulation on Gold Substrate", CD Proc. of the ASME 2009 Int. Design Engineering Technical Conferences (IDETC), Sept. 1-2, 2009, San Diego, CA, USA.
- [190] M. R. Azghani, F. Farahmand, **A. Meghdari**, G. Vossoughi, M. Parnianpour, "Design and Evaluation of a Novel Triaxial Isometric Trunk Muscle Strength Measurement System", **Proc. of IMechE, Part H, Journal of Engineering in Medicine**, Vol. 223, pp. 755-766, 2009.
- [191] S. H. Mahboobi, **A. Meghdari**, N. Jalili, F. Amiri, "Two-Dimensional Atomistic Simulation of Metallic Nanoparticles Pushing", **Modern Physics Letters B Journal**, Vol. 23. No. 22, pp. 2695-2702, 2009.
- [192] H. Nejat Pishkenari, **A. Meghdari**, "Investigation of the Temperature Effect on NC-AFM Images using Molecular Dynamics Simulations", Proc. of the 2nd International Conference on Ultrafine Grained and Nanostructured Materials, University of Tehran, Nov. 14-15, 2009, Tehran, Iran.
- [193] H. Nejat Pishkenari, **A. Meghdari**, "Molecular Dynamics Simulation of NC-AFM Surface Vacancy Characterization: Influence of Temperature", Proc. of the 22nd International Microprocesses and Nanotechnology Conference (MNC-2009), November 2009, Sapporo, Japan.
- [194] H. Babahosseini, M. Khorsand, **A. Meghdari**, A. Alasty, "Optimal Sliding Mode Control of AFM Tip Vibration and Position During Manipulation of a Nanoparticle", Proc. of the ASME 2009 Int. Mechanical Engineering Congress & Exposition (IMECE-2009), November 13-19, Lake Buena Vista, Florida, USA.
- [195] H. Babahosseini, S. H. Mahboobi, **A. Meghdari**, "Dynamics Modeling of Nanoparticle in AFM-Based Manipulation using Two Nanoscale Friction Models", Proc. of the ASME 2009 Int. Mechanical Engineering Congress & Exposition (IMECE-2009), November 13-19, Lake Buena Vista, Florida, USA.
- [196] A. Selk Ghafari, **A. Meghdari**, and G. R. Vossoughi, "Contribution of the Muscles at the Ankle Joint during Daily Activities", Proc. of the 17th. Annual (International) Conference on Mechanical Engineering (ISME-2009), May, 2009, University of Tehran, Iran.
- [197] A. Selk Ghafari, H. Hosseinkhannazer, **A. Meghdari**, "Design Optimization of a Robotic Nurse Unit Based on Tipover Avoidance using Differential Evolution Algorithm", Proc. of the 17th. Int. Conference on Mechanical Engineering (ISME-2009), May, 2009, University of Tehran, Iran.
- [198] A. Selk Ghafari, **A. Meghdari**, and G. R. Vossoughi, "Feedback Control of the Neuro-musculoskeletal System in a Forward Dynamics Simulation of Stair Locomotion", **Proc. of**

- IMEchE, Part H: Journal of Engineering in Medicine**, Vol. 223, No. 2, pp. 663-675, 2009.
- [199] A. Selk Ghafari, **A. Meghdari**, and G. R. Vossoughi, "Muscle-Driven Forward Dynamics Simulation for the Study of Differences in Muscle Function during Stair Ascent and Descent", **Proc. of IMechE, Part H: Journal of Engineering in Medicine**, Vol. 223, No. 2, pp. 863-874, 2009.
- [200] A. Selk Ghafari, **A. Meghdari**, and G. R. Vossoughi, "Biomechanical Analysis for the study of Muscle Contributions to Support Load Carrying", **Proc. of IMechE, Part C: Journal of Mechanical Engineering in Science**, Vol. 224, pp. 1-12, 2009.
- [201] H. Babahosseini, S. H. Mahboobi, **A. Meghdari**, "Pushing Force Planning During AFM-Based Nanoparticle Manipulation on Stepped Substrate", Proc. of the **22nd International Microprocesses and Nanotechnology Conference (MNC-2009)**, November 2009, Sapporo, Japan.
- [202] S. H. Mahboobi, **A. Meghdari**, N. Jalili, F. Amiri, "Precise Positioning and Assembly of Metallic Nanoclusters as Building Blocks of Nanostructures: A Molecular Dynamics Study", **Physica E Journal**, Vol. 42, pp. 182-195, 2009.

2010:

- [203] S. H. Mahboobi, **A. Meghdari**, N. Jalili, F. Amiri, "Planar Molecular Dynamics simulation of Au Clusters in Pushing Process", **Int. Journal of Nanomanufacturing**, Vol. 5, pp. 288-296, Nos. 3/4, 2010.
- [204] S. H. Tamaddoni, F. Jafari, **A. Meghdari**, S. Sohrabpour, "Biped Hopping Control Based on Spring Loaded Inverted Pendulum Model", **Int. Journal of Humanoid Robotics**, Vol. 7, No. 2, pp. 263-280, 2010.
- [205] H. Nejat Pishkenari, N. Jalili, S. H. Mahboobi, A. Alasty, **A. Meghdari**, "Robust Adaptive Backstepping Control of Uncertain Lorenz System", **Chaos; Journal of American Institute of Physics**, Vol. 20, pp. 1-5, 2010.
- [206] S. H. Mahboobi, **A. Meghdari**, N. Jalili, F. Amiri, "Molecular Dynamics Simulation of Manipulation of Metallic Nanoclusters on Double-layer Substrates", **Physica E Journal**, Vol. 42, No. 9, pp. 2364-2374, 2010.
- [207] **A. Meghdari**, S. Bagheri, V. Yaghoubi, and H. Mohammadi, "Design of a Prototype 3D Flexible Endoscopy System Based on Digital Holography" (in Persian), Proc. of the 18th. Int. Conference on Mechanical Engineering (ISME-2010), May, 2010, Sharif University of Technology, Iran.
- [208] S. H. Mahboobi, **A. Meghdari**, N. Jalili, F. Amiri, "Molecular Dynamics Simulation of Manipulation of Metallic Nanoclusters on Stepped Surfaces", **Central European Journal of Physics**, pp. 1-12, Accepted July 26, 2010.
- [209] S. H. Mahboobi, **A. Meghdari**, N. Jalili, F. Amiri "Precise Assembly of Metallic Nanoclusters as Building Blocks of Nanostructures: A Molecular Dynamics Study", Proc. of the ASME 2010 Int. Design Engineering Technical Conferences (IDETC'2010), August 15-18, 2010, Montreal, Canada.
- [210] B. R. Sahraei, A. Nemati, M. Farshchi, **A. Meghdari**, "Adaptive Fuzzy Sliding Mode Control Approach for Swarm Formation Control of Multi-Agent Systems", CD Proc. of the ASME 2010 10th Biennial Int. Conf. on Engr. Syst. Design & Analysis (ESDA 2010), July 12-14, 2010, Istanbul, Turkey.
- [211] B. Beigzadeh, **A. Meghdari**, S. Sohrabpour, "Passive Dynamic Object Manipulation: Preliminary Definition and Examples", **Journal of ACTA Automatica SINICA**, Vol. 36, pp. 1711-1719, December 2010.

2011:

- [212] H. Nejat Pishkenari, **A. Meghdari**, "Effects of Higher Oscillation Modes on TM-AFM Measurements", **Journal of Ultramicroscopy**, Vol. 111, pp. 107-110, 2011.
- [213] H. Nejat Pishkenari, S. H. Mahboobi, **A. Meghdari**, "Simulation of Imaging in Tapping-Mode Atomic-Force Microscopy: A Comparison Amongst a Variety of Approaches", **Journal of Physics D: Applied Physics**, Vol. 44, pp. 1-9, 2011.

- [214] A. Mirbagheri, F. Farahmand, **A. Meghdari**, F. Karimian, "Design and Development of an Effective Low-Cost Robotic Cameraman for Laparoscopic Surgery: Robolens", **SCIENTIA-IRANICA Int. Journal**, Vol. 18, No. 1, pp. 59-71, 2011.
- [215] **A. Meghdari**, S. M. Hosseini Lavasani, M. S. Rahimi Mousavi, M. Norouzi, "Optimal Trajectory Planning for Brachiation Robot on Ladder with Irregular Branches", CD Proc. of the ASME 2011 Int. Design Engineering Technical Conferences (IDETC/CIE 2011), August 29-31, 2011, Washington-DC, USA.
- [216] S. Salahi Moghaddam, **A. Meghdari** "Forgotten Ethical Virtues in Science and Engineering (Spreading Science)", (in Persian), **Iranian Journal of Engineering Education**; Iranian Academy of Sciences, Vol. 12, No. 48, Winter 2011.
- [217] S. Safavi, A. Selk Ghafari, **A. Meghdari**, "Efficient Design of a Torque Actuator for Lower Extremity Exoskeleton Based on Muscle Function Analysis", **Trans. on Advanced Materials Research**, Vol. 328-330, pp. 1041-1044, 2011.

2012:

- [218] H. Nejat Pishkenari, **A. Meghdari**, "Temperature Dependence Study of Nonocontact AFM Images Using Molecular Dynamics Simulations", **Int. Journal of Modern Physics**, Vol.5, pp.418-432, 2012.
- [219] **A. Meghdari**, K. G. Osgouie, E. Nasiri, A. R. Nemati, A. M. Mortazavi, "Conceptual Design and Simulation of a Semi-Automatic Cell for the Washing and Preparation of a Corpse Prior to an Islamic Burial", **Int. Journal of Advanced Robotic Systems**, Vol. 9, No. 42, pp. 1-10, 2012.
- [220] B. Beigzadeh, **A. Meghdari**, S. Sohrabpour, "PRI (Palm Rotation Indicator): A Metric for Postural Stability in Dynamic Nonprehensile Manipulation", **Journal of MECHANIKA**, Vol. 18, No. 4, pp. 461-466, 2012.
- [221] **A. Meghdari**, S. Salahi Moghaddam, F. Massoumian, "Managing Brain Drain from Iran at the time of Sanctions", (in Persian), CD-Rom Proc. of the 1st National Congress of the Scientific Elites of Iran, The National Elite Foundation, September, 2012, Iran.
- [222] H. Nejat Pishkenari, S. H. Mahboobi, M.A. Mahdjour, **A. Meghdari** "Simulation of Biomanipulation using Molecular Dynamics", CD Proc. of the ASME 2012 Int. Mechanical Engineering Conferences (IMECE-2012), November 11-15, 2012, Houston, Texas, USA.

2013:

- [223] H. Babahosseini, S. H. Mahboobi, **A. Meghdari**, "Dynamic Modeling and Sensitivity Analysis of Atomic Force Microscope Pushing Force in Nanoparticle Manipulation on a Rough Substrate", **Journal of Advanced Science, Engineering and Medicine**, Vol. 5, pp. 1-10, 2013.
- [224] R. JalilMozhdehi, A. Selk Ghafari, A. Zabiholah, **A. Meghdari**, "Active Vibration Control of a CMOS-MEMS Nano-Newton Capacitive Force Sensor for Bio Application Using PZT", **Trans. on Advanced Materials Research**, Vol. 628, pp. 317-323, 2013.
- [225] **A. Meghdari**, S.M.H. Lavasani, M. Norouzi and M.S. Rahimi Mousavi, "Minimum Control Effort Trajectory Planning and Tracking of the CEDRA Brachiation Robot", **Robotica Int. Journal**, pp.1-11, May 2013.
- [226] M. Abtahi, G. Vossoughi, **A. Meghdari**, "Full Operational Range Dynamic Modeling of Microcantilever Beams", **Journal of Microelectromechanical Systems**, pp. 1-10, June 2013.
- [227] **A. Meghdari**, M. Alemi, M. Ghazisaedy, A.R. Taheri, A. Karimian, and M. Zandvakili, "Applying Robots as Teaching Assistant in EFL Classes at Iranian Middle-Schools", Proc. of the Int. Conf. on Education and Modern Educational Technologies(EMET-2013), Sept. 2013, Venice, Italy.
- [228] **A. Meghdari**, M. Alemi, H.R. Pouretemad, A.R. Taheri, "Clinical Application of a Humanoid Robot in Playing Imitation Games for Autistic Children in Iran ", (in Persian), CD-Rom Proc. of the 2nd Basic Clinical and Neuroscience Congress 2013, Both Oral and Poster Presentation, Dec. 2013, Tehran, Iran.

[229] **A. Meghdari**, M. Alemi, A.R. Taheri, "The Effects of Using Humanoid Robots for Treatment of Individuals with Autism in Iran", 6th Neuropsychology Symposium, Dec. 2013, Tehran, Iran.

2014:

[230] M. Abtahi, G. Vossoughi, **A. Meghdari**, "Effects of the Van Der Waals Force, Squeeze-Film Damping, and Contact Bounce on the Dynamics of Electrostatic Microcantilevers Before and After Pull-in", **Journal of Nonlinear Dynamics**, Vol. 77, No. 1-2, pp. 87-98, February 2014.

[231] A. Mashayekhi, R. Bozorgmehry, A. Nahvi, **A. Meghdari**, P. Asgari, "Improved Passivity Criterion in Haptic Rendering: Influence of Coulomb and Viscous Friction", **Journal of Advanced Robotics**, Vol. 28, No. 10, pp. 695-706, April 2014.

[232] M. Alemi, **A. Meghdari**, M. Ghazisaedy, "Employing Humanoid Robots for Teaching English Language in Iranian Junior High-Schools", **Int. Journal of Humanoid Robotics**, Vol. 11, No. 3., September 2014.

[233] A. R. Taheri, M. Alemi, **A. Meghdari**, H.R. Pouretemad, S. L. Holderread, "Clinical Application of a Humanoid Robot in Playing Imitation Games for Autistic Children in Iran ", Proc. of the 14th Int. Educational Technology Conference (IETC), Sept. 3-5, 2014, Chicago, USA.

[234] M.A. Mahdjour Firouzi, H. Nejat Pishkenari, S. H. Mahboobi, , **A. Meghdari** "Manipulation of Biomolecules: A Molecular Dynamics Study", **Current Applied Physics Journal**, Vol. 14, No. 9, pp. 1216-1227, September 2014.

[235] **A. Meghdari**, M. Alemi, M. Ghazisaedy, "The Effect of Employing Humanoid Robots for Teaching English on Students' Anxiety and Attitude", CD Proc. of the 2nd RSI Int. Conf. on Robotics and Mechatronics (ICRoM), Oct. 15-17, 2014, Tehran, Iran.

[236] A. R. Taheri, M. Alemi, **A. Meghdari**, H.R. Pouretemad, N. Mahboob Basiri, "Social Robots as Assistants for Autism Therapy in Iran: Research in Progress", CD Proc. of the 2nd RSI Int. Conf. on Robotics and Mechatronics (ICRoM), Oct. 15-17, 2014, Tehran, Iran.

[237] M. Alemi, **A. Meghdari**, Ash. Ghanbarzadeh, L.J. Moghaddam, A. Ghanbarzadeh, "Impact of a Social Humanoid Robot as a Therapy Assistant in Children Cancer Treatment", Proc. of the 6th Int. Conf. on Social Robotics (ICSR), (*Best Paper Award*), Oct. 26-29, 2014, Sydney, Australia.

2015:

[238] K. Merat, H. Salarieh, A. Alasty, **A. Meghdari**, "Stochastic Piecewise Affine Control with Application to Pitch Control of Helicopter", **Nonlinear Analysis Hybrid Systems Journal**, Vol. 15, pp. 86-97, January 2015.

[239] M. Alemi, **A. Meghdari**, M. Ghazisaedy, "The Impact of Social Robotics on L2 Learners' Anxiety and Attitude in English Vocabulary Acquisition", **Int. Journal of Social Robotics**, Vol. 7, No. 4, pp. 523-535, August 2015.

[240] M. Alemi, **A. Meghdari**, N. Mahboub Basiri, A.R. Taheri, "The Effect of Applying Humanoid Robots as Teacher Assistants to Help Iranian Autistic Pupils Learn English as a Foreign Language", **Lecture Notes in Computer Science (LNCS): Social Robotics**, Vol. 9388, pp. 1-10, Oct. 2015.

[241] A.R. Taheri, M. Alemi, **A. Meghdari**, H.R. Pouretemad, N. M. Basiri, P. Poorgoldooze, "Impact of Humanoid Social Robots on Treatment of a Pair of Iranian Autistic Twins", **Lecture Notes in Computer Science (LNCS): Social Robotics**, Springer: Vol. 9388, pp. 623-632, October 2015.

[242] E. Saffari, **A. Meghdari**, B. Vazirnezhad, M. Alemi, "Ava (A Social Robot): Design and Performance of a Robotic Hearing Apparatus, **Lecture Notes in Computer Science (LNCS): Social Robotics**, Springer: Vol. 9388, pp. 440-450, Oct. 2015.

[243] **A. Meghdari**, M. Alemi, "Socio-Cognitive Robotics: Mysteries and Needs", Proc. of 1st Int. and 4th National ISEE Conference on Engineering Education, November 10-11, 2015, Shiraz, Iran.

[244] E. Saffari, **A. Meghdari**, B. Vazirnezhad, M. Alemi, "Speaker Localization in Noisy Environments: Design and Implementation of a Robotic Hearing Apparatus", CD Proc. of the 3rd RSI Int. Conf. on Robotics and Mechatronics (ICRoM), Oct. 7-9, 2015, Tehran, Iran.

- [245] B. Beigzadeh, **A. Meghdari**, “On Dynamic Non-prehensile Manipulation of Multibody Objects”, **SCIENTIA-IRANICA, Transactions B: Mechanical Engineering**, Vo. 22, No. 2, pp. 467-486.
- [246] H. Nejat, A.R. Nemati, **A. Meghdari**, “A Close Look at the Motion of C60 on Gold”, **J. of Current Applied Physics**, Vol. 15, No. 11, pp. 1402-1411, May 2015.

2016:

- [247] **A. Meghdari**, M. Alemi, “Socio-Cognitive Robotics: Mysteries and Needs”, **Iranian Journal of Engineering Education**; Iranian Academy of Sciences, Vol. 18, No. 9, Spring 2016.
- [248] H. Razavi, K. Merat, H. Salarieh, A. Alasty, **A. Meghdari**, “Observer Based Minimum Variance Control of Uncertain Piecewise Affine Systems Subject to Additive Noise”, **J. of. Nonlinear Analysis: Hybrid Systems**, Vol. 19, pp. 153-167, 2016.
- [249] Z Jahanbin, AS Ghafari, A Ebrahimi, **A. Meghdari**, “Multi-body Simulation of a Flapping-wing Robot using an Efficient Dynamical Model”, **J. of the Brazilian Society of Mechanical Sciences and Engineering**, Vol. 38, No. 1, pp. 133-149, 2016.
- [250] BR Jouybari, KG Osgouie, **A. Meghdari**, “Optimization of Kinematic Redundancy and Workspace Analysis of a Dual-Arm Cam-Lock Robot”, **ROBOTICA Int. J.**, Vol. 34, No. 1, pp. 23-42, 2016.
- [251] M. Alemi, A. Ghanbarzadeh, **A. Meghdari**, L.J. Moghaddam, “Clinical Application of a Humanoid Robot in Pediatric Cancer Interventions”, **International Journal of Social Robotics (IJSR)**, Vol. 8, Issue 5, pp. 743-759, 2016.
- [252] A.R. Taheri, **A. Meghdari**, M. Alemi, H.R. Pouretamad, P. Poorgoldooz, M. Roohbakhsh, “Social Robots and Teaching Music to Autistic Children: Myth or Reality?”, **Lecture Notes in Computer Science (LNCS): Social Robotics**, Springer: Vol. 9979, pp. 541-550, 2016.
- [253] M. Zakipour, **A. Meghdari**, M. Alemi, “RASA: A Low-Cost Upper-Torso Social Robot Acting as a Sign Language Teaching Assistant”, **Lecture Notes in Computer Science (LNCS): Social Robotics**, Springer: Vol. 9979, pp. 630-639, 2016.
- [254] **A. Meghdari**, M. Alemi, A. Ghorbandaei Pour, A.R. Taheri, “Spontaneous Human-Robot Emotional Interaction through Facial Expressions”, **Lecture Notes in Computer Science (LNCS): Social Robotics**, Springer: Vol. 9979, pp. 351-361, 2016.
- [255] **A. Meghdari**, M. Alemi, M. Khamooshi, A. Amoozandeh, A. Shariati1, B. Mozafari, “Conceptual Design of a Social Robot for Pediatric Hospitals”, Proc. of 4th RSI Int. Conf. on Robotics and Mechatronics (ICRoM), October 2016, Tehran, Iran.
- [256] **A. Meghdari**, M. Alemi, A.R. Taheri, M. Hatefipour, The Social “WATERobot”: An Exciting Educational Tool for Teaching Children about Water Awareness and Conservation, Proc. Int. Conf. on Water and Environment in the new Millennium: Education & Capacity Building (WENM2016), pp. 295-298, Dec. 3-5, 2016, University of Tehran, Tehran, Iran.
- [257] **A. Meghdari**, S. Bagheri Shouraki, A. Siyamy, A. Shariati, “The Real-Time Facial Imitation by a Social Humanoid Robot”, Proc. of the 4th RSI Int. Conf. on Robotics and Mechatronics (ICRoM), October 2016, Tehran, Iran.
- [258] A. S. Ghafari, K. Daryani Tabrizi, S. Hosseini, **A. Meghdari**, “Design and Fabrication of a Robotic Fish with Flexible Tail and the Control of its Movement using Fuzzy Logic Controller”, (in Persian) **Modares Mechanical Engineering Journal**, Vol. 16, No. 9, pp. 339-346, Sept. 2016.
- [259] **A. Meghdari**, S. Behzadipour, M. Abedi, “A Gait Pattern Generator for the Alice “Mina” Humanoid Robot”, Proc. of the 4th RSI Int. Conf. on Robotics and Mechatronics (ICRoM), October 2016, Tehran, Iran.
- [260] A.R. Nemati, H. Nejat Pishkenari, **A. Meghdari**, S. Shorabpour, “Nanocar & Nanotruck Motion on Gold Surface”, Proc. IEEE Int. Conf. on Manipulation, Automation and Robotics at Small Scales (MARSS), pp. 1-6, July 2016, Paris, France.
- [261] S. M. Hosseini Lavasani, H. Nejat Pishkenari, **A. Meghdari**, “A Closer Look at the Motion of P-carborane on Gold Surface”, Proc. IEEE Int. Conf. on Manipulation, Automation and Robotics at

Small Scales (MARSS), pp. 1-6, July 2016, Paris, France.

- [262] S. M. Hosseini Lavasani, H. Nejat Pishkenari, **A. Meghdari**, “Mechanism of 1, 12-Dicarba-closododecaborane Mobility on Gold Substrate as a Nanocar Wheel”, **The Journal of Physical Chemistry**, Vol. 120, No. 26, pp. 14048–14058, 2016.
- [263] M. Alemi, **A. Meghdari**, M. Ghazisaedy, M. Zandvakili, A. Karimian, “Impacts of using Social Robots as Teaching Assistants in Iranian English Language Classes”, (in Persian), **Sharif Journal of Science and Technology**, Vol. 32(3-1), pp. 57-64, June 2016.
- [264] H.R. Razavi, K. Merat, H. Salarieh, A. Alasty, **A. Meghdari**, “Observer Based Minimum Variance Control of Uncertain Piecewise Affine Systems Subject to Additive Noise”, **Journal of Nonlinear Analysis: Hybrid Systems**, Vol. 19, pp. 153-167, 2016.
- [265] E. M. Miandoab, H. Nejat, A. Meghdari, “Effect of Surface Energy on Nano-resonator Dynamic Behavior”, **International Journal of Mechanical Sciences**, Vol. 119, pp. 51-58, December 2016.

2017:

- [266] E.M. Miandoab, H.N. Pishkenari, **A. Meghdari**, M. Fathi, “A General Closed-Form Solution for the Static Pull-in Voltages of Electrostatically Actuated MEMS/NEMS”, **Physica E: Low-dimensional Systems and Nanostructures**, Vol. 90, pp. 7-12, June 2017.
- [267] S.M. Hadi Sadati, **A. Meghdari**, “Singularity-free Planning for a Robot Cat Free-fall with Control Delay: Role of Limbs and Tail”, Proc. IEEE 8th Int. Conf. on Mechanical and Aerospace Engineering, pp. 217-221, July 2017, Prague, Czech Republic.
- [268] **A. Meghdari**, M. Alemi, S. Rezaie, “Effect of Virtual Social Robots on Improving Students’ Cognitive Performance on a Vigilance Assignment”, (in Persian), **Journal of Educational Technology**, Vol. 11, No. 4, pp. 363-375, September 2017.
- [269] A.R. Taheri, **A. Meghdari**, M. Alemi, H.R. Pouretamad, “Human–Robot Interaction in Autism Treatment: A Case Study on Three Pairs of Autistic Children as Twins, Siblings, and Classmates”, **International Journal of Social Robotics**, (Online), October 2017.
- [270] M. Tavakol Elahi, A. Habibnejad Korayem, A. Shariati, **A. Meghdari**, M. Alemi, E. Ahmadi, A.R. Taheri, R. Heidari, “XyloTism”: A Tablet-Based Application to Teach Music to Children with Autism, **Lecture Notes in Computer Science (LNCS): Social Robotics**, Springer: Vol. 10652, pp. 728-738, 11/2017.
- [271] M. Alemi, **A. Meghdari**, E. Saffari, A. Zibafar, L. Faryan, A. Ghorbandaei Pour, A. RezaSoltani, A.R. Taheri, “RoMa: A Hi-tech Robotic Mannequin for the Fashion Industry”, **Lecture Notes in Computer Science (LNCS): Social Robotics**, Springer: Vol. 10652, pp. 209-219, 11/2017.
- [272] A.R. Taheri, **A. Meghdari**, M. Alemi, H.R. Pouretamad, “Clinical Interventions of Social Humanoid Robots in the Treatment of a Set of High- and Low-Functioning Autistic Iranian Twins”, **Accepted for publication in Transaction B: Mechanical Engineering of SCIENTIA-IRANICA Int. Journal**, September 2017.
- [273] M. Alemi, **A. Meghdari**, N. Sadat Haeri, “Young EFL Learners’ Attitude Towards RALL: An Observational Study Focusing on Motivation, Anxiety, and Interaction”, **Lecture Notes in Computer Science (LNCS): Social Robotics**, Springer: Vol. 10652, pp. 252-261, 11/2017.
- [274] A.R. Taheri, **A. Meghdari**, M. Alemi, H.R. Pouretamad, “Teaching Music to Children with Autism: A Social Robotics Challenge”, **Accepted for publication in Transaction G: Socio-Cognitive Engineering of SCIENTIA-IRANICA Int. Journal**, November 2017.

2018:

- [275] A.R. Nemati, H. Nejat Pishkenari, **A. Meghdari**, S. Sohrabpour, “Directing the Diffusive Motion of Fullerene-based Nanocars using Nonplanar Gold Surfaces”, **Journal of Physical Chemistry Chemical Physics**, Vol. 20, No.1, pp. 332-344, January 2018.
- [276] A. Ghorbandaei Pour, A.R. Taheri, M. Alemi, **A. Meghdari**, “Human–Robot Facial Expression Reciprocal Interaction Platform: Case Studies on Children with Autism”, **International Journal**

of Social Robotics, (Online), pp. 1-20, January 2018.

[277] A.R. Nemati, **A. Meghdari**, H. Nejat Pishkenari, S. Sohrabpour, “Investigating Thermal Activated Migration of Fullerene-based Nanocars”, **Accepted for publication in Transaction F: Nanotechnology of SCIENTIA-IRANICA Int. Journal**, January 2018.