

Resume of **DR. ALI MEGHDARI, ASME Fellow**

PRESENT POSITIONS

◆ **Professor of Mechanical Engineering, and Director: Center of Excellence in Design, Robotics, and Automation (CEDRA), and Director: Languages and Linguistics Center, Sharif University of Technology, Tehran, IRAN, 11155-8639.**

Tel: (+98-21) 6616-5541, **Fax:** (98-21) 6600-0021,

Emails: meghdari@sharif.edu , meghdari@msn.com ,

Home Pages: <http://meghdari.sharif.edu>, <http://sharif.edu/~language>, <http://sina.sharif.edu/~cedra>

RESEARCH INTERESTS

Kinematics & Dynamics of Multibody Systems; Robotics & Control; Mechanisms Design; Biomechanical Systems and Bio/Nano-Robotics; Dual-Arm & Flexible Manipulator Dynamics; Smart Materials and Structures; Mechatronics; Engineering Automation.

ACADEMIC/ADMINISTRATIVE EXPERIENCE

◆ **Sharif University of Technology, Tehran, 11365-9567, Iran.**

- **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 200 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 450 full-time faculties provide academic services to the university programs. Approximately 5500 B.Sc., 3500 M.Sc., and 850 Ph.D. students are currently pursuing their education at Sharif, out of which about 25% are women. In addition, I have actively participated in the design and development of the Sharif International Campus in Kish Island since 2003, currently hosting a total of about 800 students at the B.Sc. and M.Sc. levels, and about 30 full-time faculties.
- **Director; Languages & Linguistics Center** 3/2009 - present
- **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://sina.sharif.edu/~cedra/> , International Exhibition Home Page: http://www.expo21xx.com/automation21xx/15799_st2_university/default.htm
- **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 Housing and City Developments, Tehran, Iran.**
 - **Professional Mechanical Engineer in Buildings Construction (1st Grade)** 1/2001 - present
Design and inspection of mechanical plans and drawings for moderate size buildings and high-rises 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** 9/1999 - 8/2000
Collaborating 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** 9/1994 - 6/1999
 Conducting 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 - 8/1992
 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 Engineer (Post Doc.)** 5/1987 - 1/1988
 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: 1/1984 - 5/1987
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: 8/1982 - 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: 6/1979 - 5/1982
B.Sc. Advisor: Professor James Durand Jr.
B.Sc. Project: Design and Performance Characteristics of an Electric Car.

AWARDS, SCHOLARSHIPS, AND INVENTIONS

- Recipient of 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. 3/2005
- Recipient of the Distinguished Professor of Mechanical Engineering Award, By the Iranian Society of Mechanical Engineers (ISME), Isfahan, Iran. 4/2004
- 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. 7/2003
- 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). 2/2003
 - Recipient of the TIT Centennial Commemorative International Academic Grant to visit the Tokyo Institute of Technology, Tokyo, Japan. (Travel Award: 301,500 Yen). 3/2003
 - 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
 - Listed in: Who is Who in America; Finance & Industry, 31st Ed., USA. 2000
 - 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", Iranian Patent Office, Patent Invention Book No. 24220, Iran. 12/23/1990
 - "Dual-Arm Cam-Lock Manipulators", US Patent pending, UC#93-353-1, USA. 11/9/1993
 - "Design and Fabrication of a Knotting Mechanism to Duplicate Traditional Persian Carpet Weaving", Iranian Patent Office (pending), Iran. 2/10/1995
 - "A Novel Design in Quick-Change Systems", Iranian Patent Office (pending). 1/12/1997
 - "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, Iran. 6/26/2009
 - "A Mobile Holonomic Robot with Spherical Wheels", Owners: Mr. Beigzadeh; Mr. Monjazebe; Mr. Taheri; Dr. Meghdari, Iranian Patent Office, Patent Invention Book No. 67938, Iran. 12/14/2010

MEMBERSHIPS

- Member: Editorial Advisory Board, Iranian Journal of Engineering Education. 9/2009-present
- Member: Board of Editors, Int. Journal of Robotics. 9/2008-present
- Member: Board of Editors, Int. Journal of Advanced Robotics Systems (*ARS*). 1/2005-present
- Member: Academy of Sciences of the I. R. of Iran. 5/2005-present
- Member: Board of Editors, Int. Journal of Mechanics and Solids(*IJMS*). 11/2004-present
- Member: Board of Editors, *SCIENTIA IRANICA Int. Journal*. 1/2003-present
- Member: Editorial Advisory Board, *ISME* Journal of Mechanical Eng. 1/2002-present
- Member: Iranain Construction Engineers Organization, Tehran. 3/2001-present
- Member: Editorial Advisory Board, Int. Journal of Engineering. 8/1988-present

- Member: Editorial Board, Sharif Journal of Science & Research. 9/1992-present
- Member: The Tau-Beta-Pi ($\tau\beta\pi$) National Engineering Honor Society, USA. Life-Time
- Fellow: American Society of Mechanical Engineers (ASME), USA. 9/2001-present
- Member: *IEEE* Int. Workshop on Haptic Applications (HAVE2009), CANADA 5/2008-12/2009
- Member: *IASTED* Technical Committee on Robotics, CANADA 5/2001-5/2004
- Member: Int. Sci. Com., World Manufacturing Congress, WMC'99, and WMC'2001, 1998-2001
- Member: Iranian Society of Mechanical Engineers (ISME), Iran. 10/1991-present
- Reviewer: Iranian Journal of Science & Technology, Shiraz, Iran.
- Reviewer: *ASME* Journal of Mechanical Design, USA.
- Reviewer: 1994 & 1995 *IEEE* Int. Conf. on Robotics & Automation, USA & JAPAN.
- Reviewer: Journal of Robotics Systems, John Wiley & Sons, USA.
- Reviewer: Journal of Intelligent & Robotics Systems, Kluwer Academic Pub., The Netherlands.

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; "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.

COUNTRIES TRAVELED

Canada, China, Cyprus, Egypt, England, France, Germany, Holland, Italy, Iran, Japan, Lebanon, Malaysia, Mexico, Morocco, Qatar, Saudi Arabia, Singapore, Sweden, Switzerland, Syria, Turkey, U.A.E., USA.

GRADUATE STUDENTS SUPERVISED

◆ 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 & Solid 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 & Solid Mechanics Division.
- [3] **Dr. Reza Ravani**, (Co-Advised with Prof. Bahram Ravani), "On the Path Planning of a Robot Manipulator Using the Rational Frenet-Sceret Motion", (Ph.D. Dissertation; 3/2005), Advanced Sceince and Research Campus.
- [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 & Solid 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 & Solid Mechanics Division.
- [6] **Dr. Alireza Ebrahimi**, (Co-Advised with Dr. Mehdi Behzad), "A New Approach for Vibration Analysis of a Cracked Beam", (Ph.D. Dissertation; 8/2009), Applied & Solid Mechanics Division.
- [7] **Dr. Seyed Hanif Mahboobi**, (Co-Advised with Dr. Nader Jalili), "Molecular Dynamics Simulation of Nanoscale Effects in Nanomanipulation", (Ph.D. Dissertation; 10/2009), Applied & Solid 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 Dr. Gholamreza Vossoughi), "Design/Dynamics and Motion Analysis of a Robotic Nurse Unit to Assist Paraplegic Patients", (Ph.D. Dissertation; 1/2010), Applied & Solid 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 & Solid Mechanics Division.
- [11] **Borhan Beigzadeh**, (Co-Advising with Prof. Saeed Sohrabpour) "On the Correlation of Dynamic Biped Locomotion and Dynamic Object Manipulation", (Ph.D. Thesis in Progress), Applied & Solid Mechanics Division.
- [12] **Kaveh Meraat**, (Co-Advising with Prof. Arya Alasti), "Control of Hybrid Random Systems by Limited Access to State-Space Data", (Ph.D. Thesis in Progress), Applied & Solid Mechanics Division.
- [13] **Hoda Sadeghian**, (Co-Advising with Prof. Arya Alasti), "Control of Random Systems by Fractional Calculus", (Ph.D. Thesis in Progress), Applied & Solid Mechanics Division.
- [14] **Alireza Nemati-Estahbanati**, "A New Approach for Control of Swarm Robots", (Ph.D. Thesis in Progress), Applied & Solid 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, Biomechanical Engineering 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 & Solid Mechanics Division.
- [6] I. Hashemlou, "Kinematics & Dynamics Analysis of a Four-Legged Locomotion System", 9/1990, Applied & Solid Mechanics Division.
- [7] H. Sayyaadi, "Theory of Contact and Optimization in Trajectory Planning for Finger-Like Dexterous Manipulators", 9/1990, Applied & Solid Mechanics Division.
- [8] M. Ghasempouri, "Modeling, Dynamics and Control of Elastic Manipulators", 5/1991, Applied & Solid Mechanics Division.
- [9] S. Raghbi-Zadeh, "Trajectory Generation, Position and Force Control Theories of Robots with an Emphasis on Adaptive Control", 6/1991, Applied & Solid Mechanics Division.
- [10] F. Aghili, (Co-Advised with Dr. Imanafsha Dammah), "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, Biomechanical Engineering Division.
- [11] R. Davoodi, "Applying Engineering Techniques in the Analysis of Human Birth Process", 6/1992, Biomechanical Engineering Division.
- [12] M. Jafarian, "Modeling, Design, Fabrication and Analysis of Pneumatically Actuated Artificial Muscles", 1/1993, Applied & Solid Mechanics Division.
- [13] A. Sekhavat, "Swing-Free Motion of a Suspended Object from the End-Effector of an Industrial Robot", 2/1994, Applied & Solid 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, Biomechanical Engineering Division.
- [15] J. Mobarezpour, (Co-Chairman of the Thesis Committee), "Human Body's Control Strategy in Standing Mode", 12/1996, Biomechanical Engineering Division.

- [16] A. A. Mahdavi-Jalal, "Minimizing Amplitude of Oscillation of a Flexible Beam During Transport by a Robot", 1/1997, Open University, Dept. of Mechanical Engineering, Tehran.
- [17] M. Naderian, (Co-Advised with Dr. Gholamreza Vossoughi and Dr. M. M. J. Dajenrdas), "Application of NiTi Shape Memory Alloys for Actuation of an Artificial Hand", 3/1997, Applied & Solid Mechanics Division.
- [18] F. Barazandeh, "Design and Fabrication of a Series of Modular Robotics Grippers Equipped with a Quick Change System", 10/1997, Applied & Solid Mechanics Division.
- [19] M. Shahparian, "Kinematics and Dynamics Modeling of Parallel Manipulators", 9/1997, Applied & Solid Mechanics Division.
- [20] M. Khazraie, "Solving Non-Linear Dynamics Model of Joints in Human Body", 6/1997, Biomechanical Engineering Division.
- [21] H. Shah Ali, "Three Segment Dynamic Model of Knee Joint in Two-Dimensional Space", 6/1997, Biomechanical Engineering Division.
- [22] M. Saaedi, "Design and Fabrication of a Feeding Mechanism to Automate the Automobile Tire Assembly Process", 9/1997, Manufacturing Engineering Division.
- [23] J. Vatankhah, "Design and Fabrication of a 3-D.O.F. Wrist Force Sensor", 10/1997, Applied & Solid 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, Biomechanical Engineering Division.
- [26] M. Afrough, "Investigation of Robot Kinematics Calibration Methods as Applied to MA-3000 Manipulator", 5/1999, Applied & Solid 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, Biomechanical Engineering Division.
- [28] A. R. Samadi, "Design and Animation of Bicycles for Women of Islamic Culture", 6/1999, Biomechanical Engineering Division.
- [29] A. A. Forough-Nasiraei, "Design and Fabrication of a Hospital Nursing Robot", 9/2000, Biomechanical Engineering Division.
- [30] A. H. Bahrami, "Mathematical Modeling and Analysis of the Normal, Degenerated, and Fused Cervical Spine", 11/2001, Applied & Solid Mechanics Division.
- [31] A. Nezafat, "Investigation of Robot Kinematics in Braced Manipulators", 03/2002, Applied & Solid Mechanics Division.
- [32] M. Amir Hosseini, "Kinematics and Dynamics of an Underwater Remotely Operated Vehicles (UROV)", 03/2002, Applied & Solid Mechanics Division.
- [33] M. Arianpour, "Kinematics Investigation and Analysis of the Jumping Process", 03/2002, Applied & Solid Mechanics Division.
- [34] N. Dadkhah Tehrani, (Co-Advised with Prof. Nasser Sadati), "Intelligent Approach in Satellite Attitude Control", 09/2002, Applied & Solid 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 & Solid 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 & Solid Mechanics Division.
- [38] H. R. Chabok, "On the Design and Fabrication of a Master/Slave Manipulator for Glove Box Environment", 3/2003, Manufacturing Engineering Division.

- [39] H. Borhan, (Co-Advised with Dr. Gholamreza Vossoughi), "Modeling and Control of an Underwater Remotely Operated Vehicles (UROV)", 03/2003, Applied & Solid 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 & Solid 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, Biomechanical Engineering 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, Biomechanical Engineering Division.
- [44] R. Karimi, "Dynamic Analysis and Control of Human Double Leg Jumps", 12/2004, Applied & Solid 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 & Solid 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 & Solid 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 & Solid Mechanics Division.
- [48] M. Rajaei, (Co-Advised with Prof. Saeed Sohrabpour), "Dynamic Analysis and Control of an Spherical Robot Mechanism", 08/2006, Applied & Solid 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 & Solid Mechanics Division.
- [50] S. Eslami, (Co-Advised with Dr. Davood Naderi), "Increasing Stability of Mobile Manipulators using Dynamic Compensation", 12/2006, Applied & Solid 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. Mohammad T. Ahmadian), "Visual Quality Control of Slabs in Hot Rolling Mill using Neuro-Fuzzy Network", 12/2007, Applied & Solid Mechanics Division.
- [54] A. R. Mohammadi, "Design and Fabrication of Brachiation Robot", 12/2007, Applied & Solid Mechanics Division.
- [55] S. Radmard, (Co-Advised with Prof. Hassan Zohoor), "Design, Modeling and Control of Robotic Fish using IPMC's", 11/2008, Applied & Solid Mechanics Division.
- [56] H. Zomorodi Moghaddam, (Co-Advised with Dr. Farzam 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 & Solid 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 International Campus, Kish Island.

- [60] H. Babahosseini, "Modeling and Control of Manipulation Process of Nanoparticles by AFM", 02/2010, Applied & Solid 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 & Solid Mechanics Division.
- [63] A. R. Nemati-Estahbanati, "Experimental Investigation of Swarm Robots", 09/2010, Applied & Solid Mechanics Division.
- [64] Mehdi Farshchi, "Modeling and Control of Swarm Robots", 03/2011, Mechatronics Division.

SCIENTIFIC PUBLICATIONS: in 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:

- Proceedings of the "International Conference on Engineering Applications of Mechanics"**, June 9-12, 1992, Tehran, **Iran**.
- [26] • **Volume One**: "Biomechanics/Robotics and Manufacturing/Artificial Intelligence/Control", Edited By: **A. Meghdari**
- [27] • **Volume Two**: "Finite Elements/Vehicle Dynamics/Vibrations/Elasticity/Materials", Edited By: **A. Meghdari**, E. Esmailzadeh
- [28] • **Volume Three**: "Heat and Mass Transfer/Fluid Mechanics/Energy Conversion", Edited By: M. S. Sadeghipour, M. N. Bahadori, **A. Meghdari**

- [29] 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.
- [30] A. Meghdari, H. Sayyaadi, "Optimizing Motion Trajectories in Dexterous Fingers By Dynamic Programming Technique", **ROBOTICA Int. Journal**, Vol.10, pp.419-426, 1992.
- [31] A. Meghdari, "Biomedical Engineering: A Multi-disciplinary Challenge", (in Persian), **ISME Transactions; Journal of Mechanical Engineering**, Vol.1, No. 1, pp. 66-73, 1992.
- [32] 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.
- [33] 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.
- [34] 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.
- [35] M. J. Asadi, A. Meghdari, "Role of Engineers in Hospitals Operation", Proc. of the **1st Int. Conf. on Engr. Appl. of Mechanics**, pp. 106-112, June 9-12, 1992, Tehran, Iran.
- [36] 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.
- [37] 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:

- [38] 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.
- [39] 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 Abst., pp. 57, June 6-9, 1993, Charlottesville, VA., USA.
- [40] 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:

- [41] 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.
- [42] 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.
- [43] 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.
- [44] 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.

- [45] **A. Meghdari**, and F. Aghili, "Mechanical Design of a Modular Arm Prosthesis", Proc. of the **1994 IEEE-EMBS Engineering in Medicine & Biology Conference**, Vol. 1, pp. 484-485, November 3-6, 1994, Baltimore, MD., USA.

1995:

- [46] 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.
- [47] **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.
- [48] 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.
- [49] **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.
- [50] 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.
- [51] **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.
- [52] **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.
- [53] **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.
- [54] **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:

- "Introduction to Robotics: Mechanics and Control"**, New York: Addison-Wesley Pub. Co., By: J. J. Craig, 2nd Edition; 1989, and 3rd Edition; 2005.
- [55] • Authorized Translation into Persian, By: **A. Meghdari** & F. Mirfakhraee, S.U.T. Press, Tehran, 1st Print; 1996, 2nd Print; 1998, 3rd Print 2005, 4th Print (3rd Ed. Translation); 2009.
- [56] **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.
- [57] 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.
- [58] 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:

- [59] **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.

- [60] **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.
- [61] **A. Meghdari**, and F. Fahimi, "Modeling a Robot with Flexible Joints and Decoupling its Equations of Motion", CD-ROM Proc. of the 1997 ASME Design Engineering Technical Conferences, VIB-4209, September 14-17, 1997, Sacramento, CA., **USA**.
- [62] **A. Meghdari**, and F. Fahimi, "Dynamics Modeling of Elastic Multibody Systems Using Kane's Method as Applied to a Flexible Robot", CD-ROM Proc. of the **1997 ASME Design Engr. Tech. Conferences**, DAC-4004, September 14-17, 1997, Sacramento, CA., **USA**.

1998:

- [63] **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.
- [64] **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.
- [65] **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:

- Proceedings of the "7th Annual ISME Conference"**, April 14-16, 1999, Zahedan, **Iran**.
- [66] • **Volume Three: "Dynamical Systems and Vibration, Biomechanics, and Manufacturing"**, Edited By: A. Farzad, **A. Meghdari**, M. Haghpanahi
- [67] **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.**
- [68] **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.
- [69] **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**.
- [70] **A. Meghdari**, and F. Fahimi, "A Novel Approach for Decoupling of Dynamical Equations of Flexible Manipulators", CD-ROM Proc. of the **1999 ASME Design Engineering Technical Conferences**, DAC-8556, September 12-15, 1999, Las Vegas, NV, **USA**.

2000:

- [71] **A. Meghdari**, and F. Barazandeh, "Design and Fabrication of a Novel Quick-Change System", **Int. Journal of MECHATRONICS**, Vol. 10, pp. 809-818, 2000.
- [72] **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**.
- [73] **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.
- [74] **A. Meghdari**, M. Durali, D. Naderi, "Kinematics & Dynamics Analysis of a Planar Mobile Manipulator", Accepted for presentation at the **4th World Automation Congress, WAC-2000**, June 11-15, 2000, Maui, HI, **USA**.

[75] D. Naderi, **A. Meghdari**, M. Durali, , “Dynamics Modeling and Analysis of a Two D.O.F. Mobile Manipulator”, CD-ROM Proc. of the **ASME 2000 Design Engineering Technical Conferences**, MECH-14164, September 10-13, 2000, Baltimore, Maryland, USA.

2001:

- [76] **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.
- [77] D. Naderi, **A. Meghdari**, M. Durali, , “Dynamics Modeling and Analysis of a Two D.O.F. Mobile Manipulator”, **ROBOTICA Int. Journal**, March 2001.
- [78] **A. Meghdari**, M. Afrough, “Calibration of a 5-DOF Manipulator Using an Adapted Kalman Filter”, Proc. of the **5th Int. & 9th ISME Annual Mechanical Engineering Conf.**, May 27-29, 2001, Iran.
- [79] **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.
- [80] **A. Meghdari**, M. S. Sadeghipour, A. Khanicheh, and A. Tehranian, “Dynamic Modeling and Analysis of an Underwater Manipulator”, CD-Rom Proc. of the **ASME IMECE Congress, FED**, November 20-26, 2001, New York, USA. (Received: ASME’s Best Student Paper Award).
- [81] **A. Meghdari**, A. H. Bahrami, “Mathematical Modeling of Normal, Degenerated, and Fused Cervical Spines Using IAR’s Concept”, CD-Rom Proc. of the **ASME-IMECE Congress, BES-Vol. 51, Advances in Bioengineering**, November 11-16, 2001, New York, USA.

2002:

- [82] **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.
- [83] **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.
- [84] 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.
- [85] **A. Meghdari**, D. Naderi, M. R. Alam, “Neural-Network Base Observer for Real-Time Tipover Estimation”, Submitted to the **Journal of MECHATRONICS**, June 2002.
- [86] 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:

- [87] 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.
- [88] **A. Meghdari**, M. Aryanpour, “Dynamics Modeling and Analysis of the Human Jumping Process”, CD-Rom Proc. Of the **ASME-IMECE Congress, DSC**, November 17-22, 2002, New Orleans, Louisiana, USA. **Journal of INTELLIGENT and ROBOTICS SYSTEMS**, Vol. 37, pp. 97-115, 2003.
- [89] 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.

- [90] 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**.
- [91] **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-Rom 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**.
- [92] 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**.
- [93] R. Ravani, **A. Meghdari**, B. Ravani, "Architecture of Distributed Robotics Framework for Univesal Access", Proc. of the **11th ISME Annual (International) Mechanical Engineering Conf.**, Vol. 6, pp. 541-547, May, 2003, **Iran**.
- [94] 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:

- [95] **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.
- [96] **A. Meghdari**, D. Naderi, M.R. Alam, "Tipover Stability Estimation for Autonomous Mobile Manipulators Using Neural Network", CD-Rom Proc. **Japan-USA Symposium on Flexible Automation (JUSFA)**, July 19-21 , 2004, Denver, Colorado, **USA**.
- [97] **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.
- [98] R. Ravani, **A. Meghdari**, B. Ravani, "Rotation Minimizing Frames and Frenet Serret Frames of Spatial Curves", CD-Rom Proc. of the **8th ISME International Mechanical Engineering Conf.**, April, 2004, **Iran**.
- [99] G. R. Vossoughi, **A. Meghdari**, H. Borhan, "Dynamics Modeling and Robust Control of an Underwater ROV Equipped with a Robotic Manipulator Arm", CD-Rom Proc. **Japan-USA Symposium on Flexible Automation (JUSFA)**, July 19-21 , 2004, Denver, Colorado, **USA**.
- [100] M.R. Eshraghi, F. Samiee, **A. Meghdari**, "Wear Analysis of a Gearbox using Oil Analysis", CD-Rom Proc. of the **12th ISME Annual Mechanical Engineering Conf.**, April, 2004, **Iran**.
- [101] **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-Rom Proc. of the **12th ISME Annual Mechanical Engineering Conf.**, April, 2004, **Iran**.
- [102] R. Ravani, **A. Meghdari**, B. Ravani, "Variational Smooth Motion Design using Machine Vision Registration", CD-Rom Proc. of the **8th ISME International Mechanical Engineering Conf.**, April, 2004, **Iran**.
- [103] M. Nakhaee Nejad, **A. Meghdari**, D. Naderi, "Dynamic Motion Analysis of a Snake-Like Robot on a Slopped Surface using Nueral Network", CD-Rom Proc. of the **12th ISME Annual Mechanical Engineering Conf.**, April, 2004, **Iran** . Also Accepted for publication in the **Sharif Journal of Science & Research**, March 2004.
- [104] 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**.

- [105] **A. Meghdari**, H. Hosseinkhannazer, A. Selkghafari, “An Optimum Design and Simulation of an Innovative Mobile Robotic Nurse Unit to Assist Paraplegic Patients” CD-Rom Proc. **IEEE-ICM Int. Conference on Mechatronics**, June 3-5, 2004, Istanbul, **Turkey**.
- [106] R. Ravani, **A. Meghdari**, B. Ravani, “Robot Trajectory Planning using Rotational Frenet-Serret Curves”, CD-Rom Proc. of the **7th Biennial ASME Conference on Engineering Systems Design and Analysis (ESDA)**, July, 2004, Manchester, **UK**.
- [107] **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**.
- [108] **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**.
- [109] 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 OMAE04 23rd Int. Conf. on Offshore Mechanics and Arctic Engineering**, June 2004, Vancouver, B.C., **Canada**.
- [110] A. Selk Ghafari, M. Behzad, **A. Meghdari**, “Experimental Investigation on the Effects of Random Signals on Micro-Step Control Positioning Accuracy”, **Proc. of MECHATRONICS2004: The 9th Mechatronics Forum Int. Conference**, pp. 477-485, August 2004, Ankara, **Turkey**.
- [111] 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.
- [112] **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.**
- [113] **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.**
- [114] **A. Meghdari**, R. Karimi, H. N. Pishkenari, S. H. Mahboobi, A. L. Gaskarimahalle, “Dynamic Analysis of Rovers using Kane’s Approach”, Submitted to **13th Annual (International) Mechanical Engineering Conference**, May 2005, Isfahan, **Iran**.
- [115] **A. Meghdari**, H. Hosseinkhannazer, A. Selkghafari, “Optimization and Dynamic Simulation of a Nurse Robot in Hospital Environments using Genetic Algorithm” CD-Rom Proc. **2nd Int. Conf. on Autonomous Robots and Agents**, December 13-15, 2004, Palmerston North, **New Zealand**.

2005:

- [116] 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.
- [117] **A. Meghdari**, S. Sohrabpour, S.A. Nezamoddini, E.F. Izadi, S.H. Tamaddoni, “Dynamics Modeling of a Humanoid Robot”, **CD-Rom 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**.
- [118] H. N. Pishkenari, N. Jalili, A. Alasty, and **A. Meghdari** “Non-Linear Dynamics Analysis and Chaotic Behavior in Atomic Force Microscopy”, **CD-Rom 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**.
- [119] **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.
- [120] 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.

- [121] M. Behzad, **A. Meghdari**, A. Ebrahimi, “A Continuous Model for Forced Vibration Analysis of a Cracked Beam”, **CD-Rom Proc. of the 2005 ASME International Mechanical Engineering Congress, Orlando, FL**, November 5-11, 2005, **USA**.
- [122] 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.
- [123] A. Selk-Ghafari, **A. Meghdari**, “Robust Backstepping Control of Robotic Nurse Unit to Assist Paraplegic Patients”, **CD-Rom Proc. of the 2005 ASME Int. Mechanical Engineering Congress, Orlando, FL**, November 5-11, 2005, **USA**.
- [124] 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-Rom Proc. of the 2005 ASME Int. Mechanical Engineering Congress, Orlando, FL**, November 5-11, 2005, **USA**.
- [125] **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**.
- [126] 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**.
- [127] **A. Meghdari**, H. N. Pishkenari, A. L. Gaskarimahalle, S. B. Ghaemi Oskouei, "An Applied form of Kane's Equations of Motions", **CD-Rom 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**.
- [128] **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:

- [129] 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.
- [130] 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.
- [131] 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.
- [132] M. Khalaj Amir Hosseini, O. Omidi, **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.
- [133] **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.
- [134] 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.

- [135] A. Ghaffari, **A. Meghdari**, D. Naderi, S. Eslami, "Planning of Dynamic Compensation Manipulator Motions for Stability Enhancement of Mobile Manipulators by Soft Computing", **CD-Rom Proc. of the 2006 ASME International Mechanical Engineering Congress**, Chicago, IL., November 5-10, 2006, **USA**.
- [136] **A. Meghdari**, S. Sohrabpour, K. G. Osgouie, "Optimal Configuration of a Planar Dual Arm System Based on Task-Space Manipulability", **CD-Rom Proc. of the 2006 ASME International Mechanical Engineering Congress**, Chicago, IL., November 5-10, 2006, **USA**.
- [137] **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.
- [138] F. Amiri, S. H. Mahbobi, H. N. Pishkenari, **A. Meghdari**, "Modal Analysis of Metallic Nanocantilever with FCC Lattice using Atomic Approximation Method", **CD-Rom Proc. of the 2006 ASME International Mechanical Engineering Congress**, Chicago, IL., November 5-10, 2006, **USA**.
- [139] S. H. Mahbobi, A. Abedian, A. Shahidi, **A. Meghdari**, "Closed-Loop Finite Element Modeling for Analysis of Smart Structures in ANSYS Environment", **CD-Rom Proc. of the 2006 ASME Int. Mechanical Engineering Congress**, Chicago, IL., November 5-10, 2006, **USA**.
- [140] 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.
- [141] H. N. Pishkenari, M. Behzad, **A. Meghdari**, "Nonlinear Dynamic Analysis of Atomic Force Microscopy under Deterministic and Random Excitation", **CD-Rom Proc. of the 2006 ASME International Mechanical Engineering Congress**, Chicago, IL., November 5-10, 2006, **USA**.
- [142] **A. Meghdari**, S. H. Tamaddoni, F. Jafari, "Synthesis of a Compensated Kick Pattern for Humanoid Robots using Conservation Laws", **CD-Rom Proc. of the 2006 ASME International Mechanical Engineering Congress**, Chicago, IL., November 5-10, 2006, **USA**.
- [143] **A. Meghdari**, S. H. Mahboobi, A.L. Gaskarimahalle, "Dynamics Modeling of CEDRA Rescue Robot on Uneven Terrains", **Scientia Iranica Int. Journal**, Vol. 13, No. 3, pp. 272-283, 2006.
- [144] 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**.
- [145] 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**.
- [146] 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.
- [147] 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**.
- [148] 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**.
- [149] B. Beigzadeh, M. Nili AhmadAbadi, **A. Meghdari**, "Dynamic Object Manipulation (DOM) of a Sphere Using Two Manipulators", **Proc. of ICMA 2006, IEEE International Conference on Mechatronics and Automation**, June 25-28, 2006, Luoyang, Henan, **China**.
- [150] B. Beigzadeh, M. Nili AhmadAbadi, **A. Meghdari**, "Duality of Dynamic Locomotion and Dynamic Object Manipulation", **Proc. of Dynamic Walking 2006 (mechanics and control of human and robot locomotion)**, May 6-8, 2006, Ann Arbor, MI, **USA**.

- [151] 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**.
- [152] 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 IEEE International Conference on Robotics and Biomimetics**, Dec. 17-20, 2006, Kunming, **China**.

2007:

- [153] 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.
- [154] 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.
- [155] S. H. Tamaddoni, A. Alasti, **A. Meghdari**, S. Sohrabpour, H. Salarieh, "Spring-Mass Jumping of Underactuated Biped Robots", **CD-Rom Proc. of the ASME 2007 Int. Design Engineering Technical Conferences (IDETC'2007)**, September 4-7, Las Vegas, NV, **USA**.
- [156] **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.
- [157] 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**.
- [158] 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.
- [159] B. Beigzadeh, **A. Meghdari**, Y. Beigzadeh, "Dealing with Biped Locomotion as a Dynamic Object Manipulation Problem: Manipulating of Body using Legs", **Proc. of IMECE 2007, ASME International Mechanical Engineering Congress and Exposition**, November 11-15, 2007, Seattle, Washington, **USA**.
- [160] B. Beigzadeh, **A. Meghdari**, Y. Beigzadeh, "Dynamic Manipulation of Objects Using Multiple Manipulators", **Proc. of IMECE 2007, ASME International Mechanical Engineering Congress and Exposition**, November 11-15, 2007, Seattle, Washington, **USA**.
- [161] P. Zandiyeh, C. Lucas, M. T. Ahmadian, **A. Meghdari**, "Comparison of Different Artificially Intelligent Systems for Visual Crack Recognition/Classification". **Proc. of the ASME International Mechanical Engineering Congress and Exposition, IMECE 2007**, November 11-15, 2007, Seattle, Washington, **USA**.
- [162] 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.
- [163] A. Selk Ghafari, **A. Meghdari**, G.R. Vossoughi, "Modeling of Human Lower Extremity Musculoskeletal Structure using Bond-Graph Approach", **Proc. of ASME International Mechanical Engineering Congress and Exposition**, November 11-15, 2007 Seattle, Washington, **USA**.
- [164] A. Ghaffari, **A. Meghdari**, D. Naderi, S. Eslami, "Design of an Adaptive Neuro-Fuzzy Controller for Increasing Stability of Mobile Manipulators ", Accepted for publication in the **Int. Journal of Automation, Robotics, and Autonomous Systems**, 2007.

2008:

- [165] **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.

- [166] K. G. Oskouei, **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.
- [167] 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.
- [168] 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.
- [169] 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.
- [170] 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.
- [171] A. Selk Ghafari, **A. Meghdari**, Gh. R. Vossoughi, "The Effect of Load Carrying on the Human Lower Extremity Muscle Activation During Walking", **CD-Rom Proc. of the 5th Int. Symp. On Mechatronics and its Applications (ISMA08) Engineering Congress**, May 27-29, 2008, Amman, **Jordan**.
- [172] S. H. Mahboobi, **A. Meghdari**, N. Jalili, F. Amiri, "Two-Dimensional Atomistic Simulation of Metallic Nanoparticles Pushing", **CD-Rom Proc. of the 5th Int. Symp. On Mechatronics and its Applications (ISMA08) Engineering Congress**, May 27-29, 2008, Amman, **Jordan**.
- [173] H. Nejat Pishkenari, **A. Meghdari**, "Adaptive Backstepping Control of Uncertain Lorenz System", **CD-Rom Proc. of the 5th Int. Symp. On Mechatronics and its Applications (ISMA08) Engineering Congress**, May 27-29, 2008, Amman, **Jordan**.
- [174] K. G. Osgouie, **A. Meghdari**, S. Sohrabpour, "Optimal Task-Space Manipulability of Hybrid 4-DOF Dual-Arm Cam-Lock Manipulators", **CD-Rom Proc. of the 5th Int. Symp. On Mechatronics and its Applications (ISMA08) Engineering Congress**, May 27-29, 2008, Amman, **Jordan**.
- [175] A. Selk Ghafari, **A. Meghdari**, Gh. R. Vossoughi, "The Effect of Load Carrying on the Human Lower Extremity Muscle Activation During Walking", **CD-Rom Proc. of the 5th Int. Symp. On Mechatronics and its Applications (ISMA08) Engineering Congress**, May 27-29, 2008, Amman, **Jordan**.
- [176] H. Nejat Pishkenari, **A. Meghdari**, A. E. Hosseini, "Determination of Mechanical Properties of FCC Nano-Beams Based on Molecular Dynamics Simulations", **CD-Rom Proc. of the 5th Int. Symp. On Mechatronics and its Applications (ISMA08) Engineering Congress**, May 27-29, 2008, Amman, **Jordan**.
- [177] A. Selk Ghafari, **A. Meghdari**, Gh. R. Vossoughi, "Prediction of the Lower Extremity Muscle Forces During Stair Ascent and Descent", **CD-Rom Proc. of the ASME 2008 Int. Design Engineering Technical Conferences (IDETC'2008)**, August 3-6, 2008, Brooklyn, NY, **USA**.
- [178] 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**.
- [179] M. Shahi, **A. Meghdari**, "On the Design of Robotic Fish Based on Lighthill's Small-Amplitude Elongated Body Theory", **CD-Rom Proc. of the ASME 2008 Int. Mechanical Engineering Congress and Exposition (IMECE'2008)**, October 31-November 6, 2008, Boston, MA, **USA**.
- [180] S. H. Mahboobi, **A. Meghdari**, N. Jalili, F. Amiri, "Qualitative Study of Nanocluster Positioning Process: 2D Molecular Dynamics Simulations", **CD-Rom Proc. of the 2008 ASME Int.**

Mechanical Engineering Congress and Exposition (IMECE2008), November 1-6, 2008, Boston, M.A., USA.

- [181] 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.
- [182] 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.
- [183] **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.
- [184] S. Radmard, M. Honarvar, A. Alasty, **A. Meghdari**, H. Zohoor, "Position Control of Ionic Polymer-Metal Composites using Fuzzy Logic", **CD-Rom Proc. of the 2008 ASME Int. Mechanical Engineering Congress and Exposition (IMECE2008)**, November 1-6, 2008, Boston, M.A., USA.

2009:

- [185] **A. Meghdari**, S. Salahi Moghaddam, "Exploring Possibilities of a New Alliance between Humanities and Engineering Education in Iran's Technological Universities", (in Persian), **CD-Rom Proc. of the 1st National Conference on Engineering Education in 1404 (2025)**, University of Tehran, yaM12-13, 2009, Iran. **Iranian Journal of Engineering Education**; Iranian Academy of Sciences, Vol. 11, No. 43, Autumn 2009.
- [186] 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.
- [187] 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.
- [188] M. Mansouri Boroujeni, **A. Meghdari**, "Haptic Device Application in Persian Calligraphy", **Proc. of the IEEE Int. Conference on Computer and Automation Engineering**, pp. 160-164, Spring 2009, Taiwan.
- [189] H. Nejat Pishkenari, **A. Meghdari**, "Simulations of Surface Defects Characterization using Force Modulation Atomic Force Microscopy", **CD-Rom Proc. of the ASME 2009 Int. Design Engineering Technical Conferences (IDETC'2009)**, August 30-September 2, 2009, San Diego, CA, USA.
- [190] 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.
- [191] A. Selk Ghafari, **A. Meghdari**, Gh. R. Vossoughi, "Estimation of the Human Lower Extremity Musculoskeletal Conditions during Backpack Load Carrying", **Scientia Iranica: Int. Journal of Science & Engineering, Transaction on Mechanical Engineering**, Accepted for Publication, April 2009.
- [192] H. Nejat Pishkenari, **A. Meghdari**, "Surface Defects Characterization with Frequency and Force Modulation Atomic Force Microscopy Using Molecular Dynamics Simulations", **Current Applied Physics Journal**, Vol. 10, pp. 583-59, August 2009.
- [193] S. H. Mahboobi, **A. Meghdari**, N. Jalili, "Molecular Dynamics Study of Success Evaluation for Metallic Nanoparticles Manipulation on Gold Substrate", **CD-Rom Proc. of the ASME 2009 Int.**

Design Engineering Technical Conferences (IDETC'2009), August 30-September 2, 2009, San Diego, CA, USA.

- [194] 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.
- [195] 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.
- [196] "**Introduction to Robotics: Mechanics and Control**", New York: Prentice Hall Pub. Co., By: J. J. Craig, 3rd Edition, 2005.
- Authorized Translation into Persian, By: **A. Meghdari** & F. Mirfakhraee, M. Akrami, and E. Shojaei, S.U.T. Press, Tehran, 1st Print; 2009.
- [197] H. Nejat Pishkenari, **A. Meghdari**, "Investigation of the Temperature Effect on NC-AFM Images using Molecular Dynamics Simulations", **Proc. 2nd International Conference on Ultrafine Grained and Nanostructured Materials**, University of Tehran, Nov. 14-15, 2009, Tehran, Iran.
- [198] H. Nejat Pishkenari, **A. Meghdari**, "Molecular Dynamics Simulation of NC-AFM Surface Vacancy Characterization: Influence of Temperature", **Proc. 22nd International Microprocesses and Nonotechnology Conference (MNC-2009)**, November 2009, Sapporo, Japan.
- [199] 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.
- [200] 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.
- [201] 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.
- [202] A. Selk Ghafari, H. Hosseinkhannazer, **A. Meghdari**, "Design Optimization of a Robotic Nurse Unit Based on Tipover Avoidance using Differential Evolution Algorithm", **Proc. of 17th. Int. Conference on Mechanical Engineering (ISME-2009)**, May, 2009, University of Tehran, Iran.
- [203] 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.
- [204] 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.
- [205] 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.
- [206] H. Babahosseini, S. H. Mahboobi, **A. Meghdari**, "Pushing Force Planning During AFM-Based Nanoparticle Manipulation on Stepped Substrate", **Proc. 22nd International Microprocesses and Nonotechnology Conference (MNC-2009)**, November 2009, Sapporo, Japan.
- [207] 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:

- [208] 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. ¾, 2010.
- [209] 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.
- [210] 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.
- [211] 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.
- [212] **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 18th. Int. Conference on Mechanical Engineering (ISME-2010)**, May, 2010, Sharif University of Technology, **Iran**.
- [213] 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.
- [214] S. H. Mahboobi, **A. Meghdari**, N. Jalili, F. Amiri "Precise Assembly of Metallic Nanoclusters as Building Blocks of Nanostructures: A Molecular Dynamics Study", **CD-Rom Proc. of the ASME 2010 Int. Design Engineering Technical Conferences (IDETC'2010)**, August 15-18, 2010, Montreal, **Canada**.
- [215] B. R. Sahraei, A. Nemati, M. Farshchi, **A. Meghdari**, "Adaptive Fuzzy Sliding Mode Control Approach for Swarm Formation Control of Multi-Agent Systems", **CD-Rom Proc. of the ASME 2010 10th Biennial Int. Conf. on Engr. Syst. Design & Analysis (ESDA 2010)**, July 12-14, 2010, Istanbul, **Turkey**.
- [216] 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:

- [217] H. Nejat Pishkenari, **A. Meghdari**, "Effects of Higher Oscillation Modes on TM-AFM Measurements", **Journal of Ultramicroscopy**, Vol. 111, pp. 107-110, 2011.
- [218] 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.
- [219] 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.

TECHNICAL REPORTS

- "**Sharif Artificial Hand: Design and Fabrication**", By: A. Meghdari, Technical Report (in Persian), December **1990**, Sharif University of Technology, Tehran, **Iran**.
- "**Studies on Dynamics & Control of Flexible Manipulator Arms**", By: A. Meghdari, Technical Report (in Persian), June **1992**, Sharif University of Technology, Tehran, **Iran**.
- "**Preliminary Studies, Designs, and Fabrication of Artificial Muscles**", By: A. Meghdari, Technical Report (in Persian), February **1993**, Sharif University of Technology, Tehran, **Iran**.
- "**Smart Materials: Structures and Applications**", By: A. Meghdari, Technical Report,

AHMCT-TR-9306-01, June **1993**, University of California, Davis, CA., 95616, **USA**.

- **"The Dual-Arm Cam-Lock Manipulator"**, By: A. Meghdari, Technical Report, UCD-ARR-94-01-31-02, January **1994**, University of California, Davis, CA. 95616, **USA**.
- **"Telerobotics for Highway Maintenance & Construction"**, By: A. Meghdari, and B. Ravani, Technical Report, UCD-ARR-94-02-10-01, February **1994**, University of California-Davis, CA. **USA**.
- **"Design and Fabrication of a Series of Robotics Grippers Equipped with a Quick-Change System"**, By: A. Meghdari, Technical Report, AMRC-97-10-01-03, October **1997**, Advanced Manufacturing Engineering Research Center, Tehran, **Iran**.
- **"On the Economic Dispatch of Loads between Generators in an Electric Power System"**, By: R. Shoureshi, and A. Meghdari, ACEPS Technical Report, December 17, **1999**, Advanced Control of Energy and Power Systems, Division of Engineering, Colorado School of Mines, Golden, CO. 80401, **USA**.
- **"On the Design and Fabrication of an Industrial Rescue Robotics System"**, By: A. Meghdari, S. Bagheri, F. Amiri, S. H. Mahboobi, Y. Khalighi, H. N. Pishkenari, A. Lotfi, M. Moeini, H.R. Aalemohamad, et. al., **Industrial Development and Renovation Organization of Iran (IDRO) & Center of Excellence in Design, Robotics & Automation**, Technical Report, **November 2004, Iran**.
- **"On the Design and Fabrication of a 23-DOF Humanoid Robot"**, By: A. Meghdari, S.A. Nezamaddini, E. Basafa, Z. Heydari, et. al., **IranKhodro/TAM Co. & Center of Excellence in Design, Robotics and Automation**, Technical Report, **August 2004, Iran**.
- **"Dynamic Modeling and Analysis of Running in Humanoid Robots"**, By: A. Meghdari, S. Sohrabpour, **Iranian National Science Foundation (INSF)**, Technical Report, **March 2008**.

BOOK REVIEWS

- **Dynamics**; By: N. Tabandeh, Tehran University Press, November 1995.
- **Vector Dynamics**; By: N. Tabandeh, Tehran University Press, June 1996.