Curriculum Vitae of Prof. Dr. ALI MEGHDARI

Fellow of the American Society of Mechanical Engineers (ASME)

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 Science, Research and Technology**, Deputy for Academic Affairs, Tehran, Iran.
- Educational Avisor and Member of Supreme Council of Education 2/2018-present

♦ **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, aasessment, 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., 4500 M.Sc., and 1000 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 Muskeloskeletal 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-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 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 Tabatabee 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. Monjazeb; 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 Exellence 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) Campatible 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. Minoo 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. Minoo 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. Minoo 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. Minoo 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. Minoo Alemi as Co-PI; " Utilizing Robotics Technology and Intelligent Devices in Rehabilitation of Individuals with Autism in Iran ", Contract #201600, (Rials 1,100,000,000), 03/2017-03/2018.

♦ 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 Marketable Sign-Language Social Robot (RASA) for the Hearing Impaired Children", Contract # P500S11176, (Rials 1,270,000,000), 02/2018-02/2019.

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 Chairprofessorship: "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 Thrapy 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-Sceret Motion", (Ph.D. Dissertation; 3/2005),
Tehran Sceince 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 Parapleagic Patient", (Ph.D. Dissertation; 1/2010), Applied Mechanics Division.
[10] **Dr. Hossein Nejat Pishkenari**, "Molecular Dynamics Based Modeling and Simulation of Nanoscal 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 Electrostatical 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 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.
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[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.
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