**MOHSEN (MO) SHAHINPOOR, Ph.D., PE**

Home Address: 407 Kenduskeag Avenue, Bangor, ME 04401, Email: shah@maine.edu

Business Address: Mechanical Engineering Dept., University of Maine, Orono, Maine

Mobile: (207) 356 5957, Home: (207) 307 7277, Work: (207) 581 2143, (207) 581 2120

***1-Education:***

**Ph.D.: Mechanical and Aerospace Engineering**, Department of Mechanical and Aerospace Engineering, School of Engineering, University of Delaware, Newark, Delaware, USA, Dates of Attendance: 9/l/68 to 6/30/70

Principal Advisor: H. Fletcher Brown Professor Jertzy L. Nowinski

**M.Sc.: Mechanical and Aerospace Engineering**, Department of Mechanical and Aerospace Engineering, School of Engineering, University of Delaware, Newark, Delaware, USA, Dates of Attendance: 9/l/66 to 6/l5/68

Principal Advisors: Professors Millard F. Beatty and H. Fletcher Brown Professor Jertzy L. Nowinski

**B.Sc.: Chemical and Materials Engineering,** College of Engineering, Department of Chemical, Materials and Petroleum Engineering, Abadan Institute of Technology, Abadan, Iran, Dates of Attendance: 9/2l/62 to 7/l/66

Principal Advisor: Professor Ragden Babayan

***2-Brief Employment History, Professional Appointments & Experiences:***

**Professor and Director (7/1/2014-Continuing)**

Department of Mechanical Engineering, University of Maine, Orono, ME 04489

**Richard C. Hill Professor and Chair (7/1/2007-6/30/2014)**

Department of Mechanical Engineering, University of Maine, Orono, ME 04489

**Member**: **University Research Council, University of Maine (2/14/2016-3/30/2018)**

**Director: COE Biomedical Engineering Minor (9/1/2007-Continuing)**

College of Engineering, University of Maine, Orono, ME 04489

**Director: COE Robot Engineering Minor (9/1/2007-Continuing)**

College of Engineering, University of Maine, Orono, ME 04489

**Director: Biomedical Engineering Laboratory (9/14/2007-Continuing)**

College of Engineering, University of Maine, Orono, ME 04489

**Member**: **University Research Council, University of Maine (9/1/2007-8/15/2010)**

**Director: Advanced Robotics/Robotic Surgery Laboratory (9/14/2007-Continuing)**

College of Engineering, University of Maine, Orono, ME 04489

**Professor of Biomedical Science & Engineering (10/1/2007-Continuing)**

Graduate School of Biomedical Science and Engineering (GSBSE)

College of Natural Sciences, University of Maine, Orono, ME 04489

**Research Professor of Surgery (7/1/2002-6/30/2007)** Department of Neurological Surgery, Division of Surgery, School of Medicine

University of New Mexico (UNM), Albuquerque, NM 87103

**(Secondary appointment in UNM Medical School**

**Director: Artificial Muscle Research Institute (AMRI) (7/1/2002-6/30/2007)**

School of Medicine, Division of Neurological Surgery

University of New Mexico, Albuquerque, NM 87103

**Chief Scientist and Director of Biomedical Products (7/1/2002-6/30/2007)**

Environmental Robots Incorporated

Albuquerque, New Mexico 87108

**Regents Professor of Mechanical Engineering (8/13/1984-6/30/2002)**

Department of Mechanical Engineering, School of Engineering

University of New Mexico, Albuquerque, NM 87103

**Professor of Surgery and Biomedical Engineering (6/14/1996-6/30/2002)**

Division of Neurological Surgery, School of Medicine,

University of New Mexico, Albuquerque, NM 87103

**Co-Director with Dr. Ed Benzel (MD, Neurosurgeon): Spine Biomechatronics Laboratory (1/4/1997-6/30/2002)**

Neurological Surgery, School of Medicine and Mechanical Engineering, School of Engineering, University of New Mexico, Albuquerque, NM 87103

**Licensed Professional Engineer (PE)**

State of Maine, **License No. 11853**, **(1/20/2009-Continuing)**

State of New York, **License No. 58845**, **(9/15/1982 Continuing)**

State of New Mexico **License No. 9353**, **(6/16/1982-Continuing)**

**Consultant**: **Sandia National Laboratoires, Albuquerque, NM** **(1/15/1985-9/15/2002)**

**Consultant**: **Los Alamos National Lab., Los Alamos, NM (9/12/1988-8/15/2000)**

**Chairman**: **Manufacturing Engineering and Robotics (8/21/1994-8/20/1999)**

School of Engineering, University of New Mexico, Albuquerque, NM 87103

**Regents Professor (Endowed Chair)** **(7/1/1988-6/30/2002)**

School of Engineering and School of Medicine, University of New Mexico, Albuquerque, NM 87103

**Associate Dean of Engineering** **(1/13/1993-1/4/1995)**

School of Engineering, University of New Mexico, Albuquerque, New Mexico

**Research Professor** **(8/15/1991-9/30/1993)**

Divisions of Engineering & Applied Science and Geological & Planetary Sciences, California Institute of Technology (CALTECH), Pasadena, California

**Halliburton (Endowed Chair) Professor of CAD/CAM, CIM & Robotics**

 **(8/15/1987-1/15/1991, also 8/15/1995-8/15/1998)**

College of Engineering, University of New Mexico, Albuquerque, New Mexico

**Director: CAD/CAM, CIM & Robotics Laboratories** **(9/14/1987-12/31/2000)**

Department of Mechanical Engineering University of New Mexico, Albuquerque, NM

**Director:** Intelligent Materials, Structures and Systems Laboratory, University of New Mexico, Albuquerque, NM, USA **(4/13/1992-12/31/2001)**

**Professor and Chairman** **(8/13/1984-6/1/1988)**

Department of Mechanical Engineering, University of New Mexico, Albuquerque, NM

**Chairman, Manufacturing Engineering & Robotics** **Program** **(9/1/1987-12/31/2000)**

College of Engineering, University of New Mexico, Albuquerque, NM

**Director**: **American Society of Mechanical Engineers, ASME, New Mexico Section**

 **(6/15/1985-8/30/1991)**

**Chairman: Professional Development Division (1/15/1988-9/18/2001)**

American Society of Mechanical Engineers (ASME), New Mexico Section, Albuquerque, New Mexico, NM

**Chairman**: **Solid Mechanics & Materials Processing Graduate Program**, Clarkson University, Potsdam, New York, USA **(8/30/1982-8/12/1984)**

**Co-Director**: **Robotics & Manufacturing Center** **(2/15/1982-8/12/1984)**

College of Engineering, Clarkson University, Potsdam, New York

**Professor of Mechanical & Industrial Engineering** **(1/1/1979-8/12/1984)**

Department of Mechanical & Industrial Engineering, Clarkson University, Potsdam, NY

**Council Member**: **US Institute of Colloid and Surface Science (1/1/1983-1/1/1986)**

USICSS, Potsdam NY

**Visiting Principal Scientist**: **(8/1/1978-1/1/1979)**

The Technological Institute, Northwestern University, Evanston, Illinois

**Associate Dean of Engineering** **(8/1/1976-7/31/1978)**

College of Engineering, Shiraz University, Shiraz, Iran

**Professor of Mechanical Engineering**  **(9/1/1976-1/1/1979)**

Department of Mechanical Engineering, Shiraz University, Shiraz, Iran

**Principal Research Scientist** **(6/1/1976-9/1/1976)**

Department of Mechanics and Materials Science, the Johns Hopkins University, Baltimore, MD

**Associate Professor of Mechanical Engineering** **(9/1/1972-8/31/1976)**

Department of Mechanical Engineering, College of Engineering, Shiraz University, Shiraz, Iran

**Visiting Associate Professor of Mechanics & Materials Science** **(9/1/1973-9/1/1974)**

Department of Mechanics and Materials Science, the Johns Hopkins University, Baltimore, MD, USA

**Chairman** **(12/15/1970-9/1/1973)**

Department of Mechanical Engineering, Shiraz University, Shiraz, Iran

**Assistant Professor** **(8/1/70-9/1/72)**

Department of Mechanical Engineering, Shiraz University, Shiraz, Iran

**Project Engineer** **(6/15/1968-9/1/1968)**

De Laval Turbine, Inc., Nuclear Submarine Design Division, Trenton, NJ, USA

**Research Associate** **(6/15/1968-8/1/1970)**

Department of Mechanical & Aerospace Engineering, University of Delaware, Newark, Del., USA

**Teaching Assistant** **(6/15/1966-6/15/1968)**

Department of Mechanical & Aerospace Engineering, University of Delaware, Newark, Del., USA

***3. Academic, Professional and Research-Honors and Awards:***

Elected **"Fellow of the National Academy of Inventors, NAI”** by the Board of Governors of the NAI (2015)

**Distinguished Member of the Francis Crowe Society with Medallion** (inducted: December 2008, University of Maine).

NASA 2003 “**Space Act Award”** for the Development of A Space Dust Wiper Made With Polymeric Artificial Muscles with **Dr. Yoseph Bar-Cohen of JPL**, October 31st. Von Karman Auditorium, NASA Jet Propulsion Laboratories, **Awarded by Dr. Charles Elachi.**

Elected **"Fellow of Royal Society of Chemistry, RSC"** by the Board of Governors of the Royal Society of Chemistry, (2015)

Elected **"Fellow of Institute of Physics”,** by President **Sir Peter Williams** (Fellow of the Royal Society) and the Board of Governors of **Institute of Physics**, Great Britain, (2001)

Elected **"Fellow of ASME"** by the Board of Governors of the American Society of Mechanical Engineers, (1989)

University of New Mexico Libraries **“Faculty Achievement Award”,** (1996)

Elected: **Member of the New York Academy of Sciences**, October (1995)

Received the College of Engineering **"Research Excellence Award"** for the second time, University of New Mexico, May (1995)

**Award for Excellence in Research,** Sandia National Laboratories, Twice in 1993 and 1994

Awarded by the **US Society of Professional Engineers**, New Mexico Section, the title of **"Engineer of the Year 1992"**

**New York Times** 1991 **Selected Inventor: The "Magic Wheel"**, US Patent No. **5,038,532**, Issued August 13, (1991), August 17, (1991)

**Award for Excellence in Manufacturing Engineering Education,** Society of Manufacturing Engineers, April 1991

**Albuquerque Journal**'s 1991 selected "**Rising Stars of the 90's**"

Awarded by the Board of Regents of the University of New Mexico, the title of Chaired **"Regents Professor for Life"**, (1990)

Awarded the **"Halliburton Endowed Chair Professorship in CAD/CAM, CIM & Robotics**”, in the School of Engineering, University of New Mexico, August (1988)

Received the College of Engineering **"Research Excellence Award"**, University of New Mexico, May (1988)

Awarded the University of New Mexico's Burlington Northern Foundation **“Faculty Achievement Award for Excellence in Teaching and Research”**, May (1986).

**Award of Achievement** by the U.S. Society of Technical Communications, for the Creation in 1984 of the World's First Multi-Station Robotics Instructional Laboratory at UNM, April (1986), USA

Elected: **Member of the Sigma Xi Scientific Research Society**, (March 1985)

Awarded **"Eminent Engineer"** title by the **U.S. National Engineering Honor Society**; November l983, USA

**First Prize**: **International Union of Theoretical & Applied Mechanics** (IUTAM)- Applied Mechanics Reviews International **Jumping Disk Contest**, Toronto, Canada; August l980

**Engineering Researcher of the Year l977** Award, selected jointly by the **"Academy of Sciences of Iran" and "Ministry of Science and Higher Education of Iran", awarded by Her Majesty the Queen Farah of Iran,** Tehran, Iran; l0/9/77

**Alborz Foundation** **"Distinguished Scientist of the Year l976"** Award, Tehran, Iran; 2/7/77

**4th. Place Honor** (amongst over 110,000 high school graduate applicants), National Universities Annual Admissions Contest, Tehran, Iran (1962)

***4. Non-Academic Services and Honors :***

**Talent Judge**: National Collegiate Inventors Competition (CIC) sponsored by **National Inventors Hall of Fame and conducted by:**National Academy of Inventors; (2015, 2016, 2017 and 2018, continues)

**Judge and Workshop Organizer, 6th Annual Robotics Expo-** 4H Robotics Expo and Workshop, Organized by Jen Lobley, M.ED, CVA, University of Maine-Machias Campus, State of Maine 4-H Robotics, March, 26, 2012, Machias, Maine

**Judge, State of Maine VEX Robotics Championship, April 2010, Portland, Maine**

**Championship**, Generics Soccer Team, Albuquerque Soccer League, Albuquerque, New Mexico, (1986), was **Assistant Coach.**

**Championship**, Potsdam Soccer Team, **Northern New York Soccer Tournament**, Potsdam, NY, (1982), played **Center Forward**.

**Championship**, Abadan Institute of Technology (AIT) Team, **Abadan Soccer Tournament**, Abadan, Iran, (1964 and 1966), played **Left Forward**.

**Second Place**, l967 **State of Delaware Open Chess Championship**, Title and Award, Wilmington, Delaware; 7/l8/67

**Champion**, 1st. place: **Abadan Chess Championship**, l965; Abadan, Iran; Title and Award, 4/20/65

**Pianist and Violin player**: Abadan Institute of Technology (AIT) Student Musical Band, services rendered during 7/1/1962-6/30/1966

**Student Council Officer**: Abadan Institute of Technology (AIT) Student Council, services rendered during 7/1/1962-6/30/1966

***5.1- Research Funding History* (88 Grants)*:***

**Over $15M, of past research grants and pending grants:**

NIH, R1 Grant, “Development of a Non-Invasively Adjustable Implant for Type 1 Thyroplasty”, submitted, Co-PI, $2,717,252, 9/1/2019 - 8/31/2024

RRF, 2018-2019, “Hybrid Polymer-Metal Composites made with Cellulose Nanofibrils for Sensing and Actuation Applications”, Maine Research Reinvestment Fund (RRF), co-PI, Submitted, $50,000

NIH, “A Novel Robotic Glove for Power Assistance”, Co-PI, pending, $568,103, 9/1/2018 - 9/1/2021

NSF, “NRI: “A Novel IPMC-based Robotic Glove for Hand Assistance in Activities of Daily Living”, Co-PI, declined. In the process of resubmission to NSF, based on NSF Reviewers feedback, $390,511, (8/15/2018 - 8/15/2021)

RRF, 2018-2019, “Wearable Companion Robots”, Maine Research Reinvestment Fund (RRF), co-PI, $38,000

MTI, “Establishing Biomechanics and Bio-Inspired Robotics Lab (BBRL) to Enable Assistive Products Development and Enhance Physical Therapy Services in Maine”, co-PI, MTI, $724,000, with a 1-to-1 UMaine Match for a total of $1, 448,000 (2018-2022)-declined MTI, in the process of resubmission based on MTI feedback (2018)

NSF, “NRI: Investigation of Designs and Materials Framework to Facilitate Safe Symbiotic Haptic Interactions among Ubiquitous Co-Robots and other Agents”, PI, declined NSF, in the process of resubmission based on NSF feedback, $592,523, (2017-2020)

NSF, “Analytical and Experimental Study of Fused-Filament 3D Printed Electroactive Polymer Structures”, Co-PI, declined NSF Grant, in the process of resubmission based on NSF feedback, $371,542, (2017-2019)

NSF, “Feasibility of Ionic Polymer Metal Composites (IPMCs) Micro-Nano Cantilevers as Dynamic Mode Biosensors for Detection and Measurement of Analyte Mass”, PI, NSF declined Grant, $227,428, (2016-2018)

Maine Science and Technology Foundation, “Advanced Biomechanics Laboratory for Injury Reduction and Rehabilitation”, (co-PI), MTAF Program, ($795,000), (2011-2015)

NIH, R1 Granr, “Development of a non-invasively adjustable implant technique for medialization laryngoplasty”, declined, Co-PI, $2,254,356, 12/1/2013 - 11/30/2018

NASA, “Real-time Wireless Shape Monitoring of Deployable/Inflatable Space Structures”, (co-PI), NASA EPSCoR Grant, ($1,543,000), (2010-2014)

Ophthalmotronics Corporation, “Development of Bionic Eyes Using Advanced Nano-Composites”, 2005-2007, ($248,000).

NIH/National Cancer Institute/Department of Health & Human Services, Through Magnim Inc., ”Biomagnetic Sensor Array for Cardiac/Cerebral Imaging”, 2003-2005, Phase I ($196,758)

NASA/NIAC Phase II, through OAI-ERI, “Solid State Aircraft Development Using Ionic Polymeric Artificial Muscles”, (2003-2005), ($499,753)

NASA Langley Research Center through SAIC,” Deployable Space Mirrors For Star Tracking Using Polymeric Sensors and Actuators,” (2003), ($41,000)

NASA/NIAC Phase I, Through OAI-UNM, “Solid State Aircraft Development Using Ionic Polymeric Artificial Muscles”, (2002-2004), ($75,000)

NASA/JSC,” Development of Synthetic Muscle Systems for NASA Space Robotics/EVA Applications,” Phase II, through ERI, Contract No. NAS9-02015, (2002-2004), ($599,563)

NASA/JSC,” Development of Synthetic Muscle Systems for NASA Space Robotics/EVA Applications”, Phase I, through ERI, Contract No. NAS9-02013, (2001-2002), ($69,800)

Johnson & Johnson DePuy Acromed, "Biomechanical Testing of Pedicle Screws placed in the Mid-Cervical Spine with Image Guidance" with Dr. Nevan Baldwin of Neurological Surgery Division of Medical School, No. MED-09-2001, (2000-2001), ($134,500, grant funded through UNM Medical School)

Sandia National Laboratories”, Smart Materials & Structures Research,” UNM-342622, (1998-2000), ($164,560)

Air Force Research Laboratory-ISSES, "Space Optics Actuator Development for ASTEC ISSES Effort-Preliminary Investigation,", UNM-833961, (2000-2002), ($113,450)

NSF, "Using IPMC Artificial Muscles for A Micro-Gripper," UNM-314601, (1999-2000), ($61,000)

MIT/Draper Laboratory, "Artificial Muscles for Vorticity Control of Underwater Swimming Robots,", UNM-311851 and UNM-315241, (1998-2000), ($175,800)

Naval Research Laboratory, "Design and Development of a Biomimetic Swimming Robotic Fish with Smart Skin", No. N00173-98-C-2060, (1998-2002), ($2,780,028)

NASA Johnson Space Center, "Artificial Muscles for NASA Space Applications," (1998-2000), UNM-310815, ($360,000)

Naval Research Laboratory, "Design and Development of A Biomimetic Flying Robots", No. N00115-97-C-1352, (1997-1998), ($325,044)

NASA-JPL, (1996-1999), "Artificial Muscles for Space Robotic Applications,", No. UNM-346041, ($170,000)

UNM, Artificial Muscles Research Institute, UNM Administrative Funding, (1996-1999), UNM-AMRI-1-18549, ($780,000 cash, and $720,000 in-kind)

Sandia National Laboratories, Grant No. AE-4721B, (1996-1998), ($56,000), Application of Smart Materials and Structures and Artificial Muscles to Smart Structures

Sandia National Laboratories, Equipment Grant No. AE-4721B-2, (1996-97)- ($80,000), An MTS Materials Testing System

Artificial Muscles Research & Development (AMRD), “Artificial Muscles Research,”, AMRDI-0001-UNM-347951, (1996-97), ($22,000)

Science & Technology Alliance, DOE-SNL, Grant No. AS-5088, (1996-97), ( $23,000), CAD/CAM & Robotics Training For Minority Students

Sandia National Laboratories, Equipment Grant No. AE-4721B-AM2, (1996), ($250,000), Soligen 3-Dimensional Printing Rapid Prototyping Machine

Sandia National Laboratories, Grant No. AE-4721, (1995-1996), ($46,000), Application of Smart Materials and Structures and Artificial Muscles to Micro-Machining

Waste Education and Research Consortium (WERC), (1995-1996), WERC-09-095, ($21,000), Applications of Ionic Polymeric Gels As An Encapsulation Means For Contaminated Water

Science & Technology Alliance, DOE-SNL, Grant No. AF-8846, (1995-96), ( $29,000), CAD/CAM & Robotic Training For Minority Students

Sandia National Laboratories, Equipment Grant No. AM-4721- AM1, (1995-1996)- ($287,000), 4 Stardent Graphics Workstations

National Science Foundation, DMII-DMGC-96, (1995-1996), ($187,890), 1996 NSF Design and Manufacturing Grantees Conference, Albuquerque, New Mexico

Air Force Office of Scientific Research (AFOSR) via JIMT, (1994-1997), ($96,000), Study of Environmentally Conscious Design & Manufacturing and the Eco-Factory

National Science Foundation, (1994-1996), ($299,876), A Laboratory for the Study of Interactions of Biological Systems with Synthetic Materials

Sikorsky Helicopter Company, Grant No. PO S2542146, (1994-1995), ($27,400), Manufacturing Automation of Isogrids

Sandia National Laboratories, Grant No. AE-4721, (1994)-(1995), ($40,116), Smart Materials, Artificial Muscles and Structures Research and Development

Army Research Office Grant No.32115-MS-SM, (1993-1996), ($312,000), Novel Applications of Ionic Polymeric Gels as Smart Materials and Artificial Muscles For Robotic Applications

National Science Foundation, International Union of Theoretical & Applied Mechanics (IUTAM) Symposium on Nonlinear Waves, Grant No. MSS-9302478, ($9,900),

(1993-1994)

Science & Technology Alliance, DOE-SNL, Sandia National Laboratories Grant No. AF-8846, (1993-1994), ( $19,800), CAD/CAM & Robotic Training For Minority Students

Western Regional Power Association, Intelligent Power Generation From Bio-Mass, Grant No.P-3201.29, (($24,900), (1993-1994)

Sandia National Laboratories, Grant No.AJ-4111, (1993-1994), ($12,000), Performance Evaluation of Chemical Free Thermoelectric Water Coolers

Science & Technology Alliance, DOE-SNL, Grant No. AF-8846, (1993-94), ( $20,800), CAD/CAM & Robotic Training For Minority Students

National Science Foundation, Miklowitz Memorial Symposium, Grant No.MSS-9301820, (1992-93), ( $9,900)

Sandia National Laboratories, Grant No. AE-9988, (1992-94), ( $41,450), Design For Manufacturability of Modular Multi-Chip Advanced Controllers and Their Manufacturing Costs

Sandia National Laboratories, Grant No.AE-5124, (1992-93), Velocity, Angular Dispersion and Size Distributions of Fragments in A Dynamic Fragmentation Event,

($20,560)

Environmental Protection Agency through AIPC-Pueblo Office of Environmental Protection, Grant No. UNM-128/430A, (1992-1993), ($54,000), Environmental Graduate Training and Research For The Nineteen Pueblos of New Mexico

Sandia National Laboratories, Grant No. AE-4721, (1992-1993), ($48,116), Ionic Polymeric Gel Actuators and Artificial Muscles

Sandia National Laboratories, Grant No.AC-5525, (1992), ($10,934), CAD/CAM and Robotics Summer Training of Minority Students

Los Alamos National Laboratory, Grant No. 9-X60-D1200-1, (1992), ($32,238), Manufacturing Automation of Multiple-Cycle Direct Oxide Reduction (MCDOR)

Sandia National Laboratories, Grant No. 128-378, (1991-92), ($40,490), Evaluation and Selection of CAD/CAM Systems For Small Manufacturing Job Shops

Los Alamos National Laboratory, Equipment Grant, IBM 7565 Robot Manipulator System with Series 1 Computer and High Pressure Hydraulic Unit, Grant No.326-91, (1991), ($124,659)

Los Alamos National laboratory, Grant No.128-393, (1991-1993), ($34,013), Manufacturing Automation of MCDOR

Sandia National Laboratories, Grant No. 67-7922, (1991-92), ($36,292), Novel Design and Manufacturing of Type 3 Interconnection Modules For Electronic Boards

Sandia National Laboratories, PADL-II Solid Modeling Software & Tektronix Equipment Grant No.12-3885, (1991), ($41,600)

Sandia National Laboratories Grant No.69-3960, (1990-1991),($40,095), Design of Smart Projectiles For Electromagnetic Rail Launchers and Coil guns

Sandia National Laboratories Grant No.128-372, (1990-1991), ($55,670), Modeling of High Pressure Burning of Pyrotechnic Materials

Sandia National Laboratories Grant No.66-0505, (1989-1990), ($49,652), High Pressure Burning of Pyrotechnic Materials in A Closed System

Sandia National Laboratories Grant No.40-4133, (1989-1990), ($51,300), Combustion of Pyrotechnic Materials in A Closed System

Sandia National Laboratories, Grant No. 57-9622, (1988-1989),($51,400), Characterization of High Pressures Produced by Combustion of Pyrotechnic Materials

Defense Nuclear Agency(DNA) via University of Texas at Arlington(UTA), Grant No. 142/403, (1988-1989), ($84,000), Dynamic Computer Simulations of Plasma Armature Electromagnetic Rail Launchers

Sandia National Laboratories Grant No.75-7546, (1988-1989),($49,800), Dynamic Computer Simulation of Pyrotechnic Material Combustion

Army Research Office Grant No. 24867-EG, (1987-1990), ($254,000), Dynamic Stability of Flexible Robot Manipulators

Bell and Howell Equipment Grant, Two Computer Image Processing Systems, February, (1987), ($18,000).

Sandia National Laboratory, Grant No. 23-0307, (1987-1988), ($25,000), Combustion Characteristics of Pyrotechnic Materials

Sandia National Laboratory, Grant No. 04-1186, (1986-1987), ($36,036), Characterization and Manufacturing of Active Granular Materials.

INTEL Corporation Equipment Grant, Maker 100 United States Robot, Controller and Auxiliary Equipment, (1986), ($50,000).

Sandia National Laboratories, Grant No. 04-1286, Study of Two-Fingered Robotic Gripper Dynamics, (1986-1987), ($19,460).

Southeastern Center for Electrical Engineering Education (SCEEE), Grant No. ORG Code 10815, AFWL Fellowship, (1986-1987), ($10,000).

T & W Systems Inc., Equipment and Software Grant, IBM 386 Computers & High Resolution VGA Monitors and the VERSACAD Software, (1986), ($18,500)

IBM, Equipment Grant, IBM 7535 Advanced Manufacturing System;(1985, ($64,000).

Sandia National Laboratories, Grant No. 5l-l362, (l985-1986), ($5l,232), Development of ITV For the State of New Mexico, The First Instructional Television Course On Robot

Engineering was offered and was beamed throughout the State of New Mexico on ITV to Begin the State-Wide ITV Network

Intel Corporation, Equipment Grant, Supermicro Computer System 2863l0-2 and The Associated iRMX-Based Software, (l985), ($27,725)

IBM Equipment Grant, Two Model 7565 Robots (White Cloud) Advanced Manufacturing System, plus One Series l Micro-computer System and Software, (l984), ($240,000)

General Electric Company, Grant No. J85-00032lN6765, (l984), ($l5,457), Effect of Microcracks On the Manufacturing of PZT Piezoceramic Materials

General Electric Company, Grant No. J85-00032lN47l4 and J85-00032lN0785, (l984), ($22,473), Effect of Vibratory Compaction On the Properties of Green-Pressed PZT Piezoceramic Powders

Sandia National Laboratories, Grant-in-Aid, (l984-86), ($10,000), Graduate Student Scholarship in Robotics

General Electric Company, Grant No. J85-00032lN47l4, (l983), ($17,0l6), Development of A Robotic Gripper For the GE P50 Manipulator

National Science Foundation, Grant No. CEE-83l0632, (l983), ($40,805), Experimental Determination of Coordination Number Distributions in Random Packing of Granular Materials

National Science Foundation Grant NSF-CEE-802l032, (l982), ($26,222), Frequency Distribution of Voids in Mixtures of Granular Materials

The Augsbury Corporation, Glens Falls, (1980), NY, Grant No. Res. Div. Acc. No. 37583l ($l8,000), Electromagnetic Separation of Coal-Oil Mixtures

CCT Division of Research Grant No. 336258, (l980), ($3,006), Innovative Teaching Techniques

CCT Division of Research Grant No. 338250, (l980), ($3,500), Development of A Robotics Course”,

National Science Foundation Grant NSF-CME802l032, (l980), ($25,000), Frequency Distribution of Voids In Granular Materials

Atomic Energy Organization of Iran, Research Grants AE0l-Pu-RG (l976 - 1978) and Grants AE0l-Nu-RG (1976-1979) Shiraz (Pahlavi) University, Shiraz, and Northwestern University, Evanston, IL ($744,000), Aseismic Design of Nuclear Reactors

Unesco-lOC Short Grant, On the Teaching of Marine Engineering and Technology at Universities, (l976), ($3,000)

National Science Foundation Grant NSF-GK40l27-76, and NSF GK32ll7X-76, Department of Mechanics and Materials Science, The Johns Hopkins University, Baltimore, MD, (l976- l977), (PI: C. Truesdell), Elastodynamics and Rational Thermo-Mechanics Phenomena (not a principal or co-principal investigator)

National Science Foundation NSF-GK40l27X-74 and NSF-GK32ll7X-74, Department of Mechanics and Materials Science, The Johns Hopkins Univ., Baltimore, MD (PI: J.L. Ericksen), (l976- l977), Dynamic Stability of Structured Media (not a principal or co-principal investigator)

Shiraz University Research Council Grant PURC-7-70, (l970-l972), ($4,400), Hovercraft Development Project

National Science Foundation Grants NSF-2-972-898, Dislocation and Elastodynamics; 9/l6/68 - 7/30/70 and U.S. Temis Pulsatile Flow Grant 2-972-9l2; 9/l6/69 - 8/l5/70 and NSF-97-893, Elastic Stability; (1966-1967), Department of Mechanical and Aerospace Engineering, University of Delaware; Newark, DE (PI: J.L. Nowinski), (not a principal or co-principal investigator)

|  |  |
| --- | --- |
|  |   |

***5.2- Academic Educational & Research Laboratories Established***

*(16 of them, Listing the most recent ones first)*

Currently established with Professor Vincent Caccese University of Maine’s and Eastern Maine Medical Center (EMMC, Dr. Andrew Hodge, Chief of Orthopedic Surgery), Maine’s first “**Human Performance and Gait Laboratory”** as a joint laboratory with funding from Eastern Maine Medical Center (EMMC) and Maine Science and Technology Foundation, MTAF Program (2012)

Established with Professor Vincent Caccese University of Maine’s and State of Maine’s first “**Advanced Biomechanics Laboratory for Injury Reduction and Rehabilitation”** with funding from Maine Science and Technology Foundation, MTAF Program, (2011)

Established with Professor Ashish Deshpande, University of Maine’s and State of Maine’s first **“Rehabilitation, Neuromuscular and Biorobotics (ReNeu) Laboratory”,** with funding from NSF and Office of VP for Research, (2010)

Helped to Establish, for Professor Senthil Vel, University of Maine’s and State of Maine’s first **“Controls and Mechatronics Laboratory)”** with funding from **NSF and NASA,** (2009)

Helped to Establish, for Professor Ali Sarvestani, University of Maine’s and State of Maine’s first **“Cell Mechanics and Tissue Manufacturing Laboratory**: with Funding from the Office of VP for Research, UMaine in (2009)

Established with Professors Ali Abedi (ECE dept.), Vince Caccese, and Mauricio deCunha (ECE), University of Maine’s and State of Maine’s first **“Lunar Habitat/Wireless Sensing Laboratory”** in January 2011, with funding from **NASA EPSCoR Gran**t: “Wireless Dynamic Monitoring of Deployable Space Structures awarded August 2008

Established University of Maine’s and State of Maine’s first **“Smart Materials and Artificial Muscles Laboratory”** with seed funding from University of Maine office of Vice-President for Research and Maine Economic Incentive Funds (MEIF), (2009)

Established the University of Maine’s and State of Maine’s first **“Biomedical Engineering Laboratory”** with seed funding from University of Maine office of Vice-President for Research and Maine Economic Incentive Funds (MEIF), (2009)

Established University of Maine’s first **“Intelligent Robotics” as well as “Surgical Robotic Systems” laboratories** with seed funding from University of Maine office of Vice-President for Research and Maine Economic Incentive Funds (MEIF), (2009)

With funding from the Neurological Surgery Department and the School of Medicine of the University of New Mexico in 1998, established and served as co-director with Professor Ed Benzel, Chair of Neurological Surgery Department, the UNM’s "**Spine Biomechatronics Laboratory”** with the goal of electronic regeneration of severed spinal cord.

Established with funding from Sandia National Laboratories and the University of New Mexico Office of the Associate Provost for Research the world’s first “**Artificial Muscles Research Institute (AMRI)”** during the year 1996 in the School of Engineering and the School of Medicine, University of New Mexico. World's first membrane-encapsulated artificial muscles made from ionic polymeric gels were first fabricated in the “**Artificial Muscle Research Laboratory”, (AMRL),** which was established prior to the establishment of the **Artificial Muscles Research Institute (AMRI)** laboratory in 1993.

With funding from Sandia National Laboratories and US Army Research Office (ARO) Established the “**Smart Materials, Structures and Systems Laboratory”** during the year 1992 in the College of Engineering, University of New Mexico.

Established (with professors Fred Ju and Joe Mullins of the ME Dept.) with funding from IBM CIM Alliance, the first “**Computer Integrated Manufacturing (CIM) Laboratory”** at UNM with RT work stations, 386 computers, CNC machines , ASA400 networking, IBM CAD and auxiliary units during the 1990-1991 academic year.

Established with UNM bond money the first (in the state of New Mexico) fully operational **"Robotics Instructional Laboratory"** in the ME Department at the University of New Mexico with l4 independent robot work stations each with a 5-axis robot, a computer, a l0-axis controller, a conveyer belt and a coordinated table during the period l984-l985. This instructional laboratory was also equipped with an IBM-7535 Advanced Manufacturing System Robotic Cell, a Maker-100 United States Robotic Cell, a Lobot-1, 6-axis robot with voice and vision and a mobile robot in the period 1985-86.

Established (with Professor Doug Smith of Chemical and Nuclear Engineering Dept.) as a Co-Director, the first UNM “**Powder and Granular Materials Laboratory”** jointly run by the Mechanical Engineering and the Chemical and Nuclear Engineering Departments during the period l984 - l985.

Established (as team member with Professors R. Schilling and R. Mukundan of ECE Dept.) with internal and external funds (Westinghouse, GE, IBM) a fully operational **"Robotics Research and Demonstration Laboratory"** with two IBM 7565 (White Cloud) Rectangular Robots, one GE P50 large 6-axis industrial robot, two liberator cylindrical Robots (Robotics, Inc.), one Optomation II robotic vision system (GE), and one series I microcomputer (IBM) and AML (Advanced Manufacturing Language) Software in the period 1982-1984.

Established with external and internal funds two fully operational **"Instructional Robotics and Control Laboratories"** at Clarkson University with l0 Educational 5-axis robots and the associated robotic work cells, and 2 mobile personal robots during the period l98l-l984.

***6. Activities In Conferences, Congresses and Professional Institutions***

*(Listing the most recent ones first)*

**General Chair and keynote speaker:** 10th. World Congress on Biomimetics, Artificial Muscles and Nano-Bio, BAMN2019, September 1-4, Boston, Mass, USA (2019)

**General Chair and keynote speaker:** 9th. World Congress on Biomimetics, Artificial Muscles and Nano-Bio, <http://bamn2017.org//>, BAMN2017, September 25-27 Wollongong, Australia (2017)

**General Chair and plenary speaker:** 8th. World Congress on Biomimetics, Artificial Muscles and Nano-Bio, [http://bamn2015.org//](http://www.bamn2013.org/main//), BAMN2015, August 24-26, Vancouver, Canada, (2015)

**General Chair:** 7th. World Congress on Biomimetics, Artificial Muscles and Nano-Bio (Nano-Bio 2013), <http://www.bamn2013.org/main//>, BAMN2013, August 26-30, Jeju Island, South Korea, (2013)

**Plenary Speaker:** 7th. World Congress on Biomimetics, Artificial Muscles and Nano-Bio (Nano-Bio 2013), <http://www.bamn2013.org/main//>, BAMN2013, August 26-30, Jeju Island, South Korea, (2013)

**Invited Speaker:** 4th International Conference on Smart Materials, Structures and Systems (CIMTEC 2012), June 10-14, 2012, <http://www.cimtec-congress.org/2012/> , Montecatini Terme, Tuscany, Italy, (2012)

**Session Chair:** 4th International Conference on Smart Materials, Structures and Systems (CIMTEC 2012), June 10-14, 2012, <http://www.cimtec-congress.org/2012/> , Montecatini Terme, Tuscany, Italy, (2012)

**Keynote Speaker:** 6th International Congress on Biomimetics, Artificial Muscles and Nano-Bio (Nano-Bio BAMN 2011), <http://biomimetics2011.u-cergy.fr/>, Cergy-Pontoise, Paris, France. October 25-27, (2011)

**General Chair:** 6th International Congress on Biomimetics, Artificial Muscles and Nano-Bio (Nano-Bio BAMN 2011), <http://biomimetics2011.u-cergy.fr/>, Cergy-Pontoise, Paris, France. October 25-27, (2011)

**Session Chair:** 6th World Congress on Biomimetics, Artificial Muscles and Nano-Bio (Nano-Bio 2011), <http://biomimetics2011.u-cergy.fr/>, Cergy-Pontoise, Paris, France. October 25-27, (2011)

**Plenary Speaker:** 4th Joint European Society of Artificial Organs (ESAO) and International federation for Artificial Organs (IPAO) Congress 2011, <http://www.esao-ifao-2011.3bs.uminho.pt/> October 9-12, Porto Congress Center, Portugal, (2011)

**General Chair:** 5th World Congress on Biomimetics, Artificial Muscles and Nano-Bio [http:// 4th\_Conference\_on\_Artificial\_Muscles\_5th.html?id=hoJ9mwEACAAJ](http://books.google.com/books/about/4th_Conference_on_Artificial_Muscles_5th.html?id=hoJ9mwEACAAJ) (Nano-Bio 2009), BAMN 2009, November 25-27, Osaka, Japan, (2009)

**Keynote Speaker:** 5th World Congress on Biomimetics, Artificial Muscles and Nano-Bio, [http:// 4th\_Conference\_on\_Artificial\_Muscles\_5th.html?id=hoJ9mwEACAAJ](http://books.google.com/books/about/4th_Conference_on_Artificial_Muscles_5th.html?id=hoJ9mwEACAAJ), (Nano-Bio BAMN 2009), November 25-27, Osaka, Japan, (2009)

**General Chair:** 5th World Congress on Biomimetics, Artificial Muscles and Nano-Bio, [http:// 4th\_Conference\_on\_Artificial\_Muscles\_5th.html?id=hoJ9mwEACAAJ](http://books.google.com/books/about/4th_Conference_on_Artificial_Muscles_5th.html?id=hoJ9mwEACAAJ), (Nano-Bio BAMN 2009), November 25-27, Osaka, Japan, (2009)

**Session Chair**: International Materials Research Congress XX, 2011, Cancun Mexico, August 14-19, 2011, <https://www.mrs.org/imrc2011/>, Symposium 16: Smart Materials, Devices and Related Technologies, (2011)

**Member: Program Committee**, 16th US National Congress of Theoretical and Applied Mechanics (<http://www.conferencetoolbox.org/USNCTAM2010/Organizers.cfm>)

State College, PA, June 27-July 2, 2010

**Symposium Chair**, **Electromechanics of Ionic Polymer Metal Composites (IPMCs)**, 16th US National Congress of Theoretical and Applied Mechanics (<http://www.conferencetoolbox.org/USNCTAM2010/Organizers.cfm>)

State College, PA, June 27-July 2, 2010

**Invited Speaker:** Mohsen Shahinpoor, “Artificial Muscles”, (invited), American Society for Artificial Internal Organs (ASAIO), 56th. Annual Conference, <http://www.asaio.com/>, May 27-29, Baltimore, Md., CD ROM Proceedings, 2010

**Session Chair:** 4th International Conference on Artificial Muscles, and the 5th. International Congress on Biomimetics, Artificial Muscles and Nano-Bio (Nano-Bio 2009), <http://unit.aist.go.jp/rice/events/cam4/english/index_e.html>, Seri Life Science Center, Osaka, Japan, November 25-28, (2009)

**General Chair** with **Professor Toribio Fernández Otero:** 4th. World Congress on Biomimetics, Artificial Muscles and Nano-Bio (Biomimetics and Nano-Bio BAMN 2007), [www.world-congress.net](http://www.world-congress.net), [www.upct.es/~nano-bio/pagina\_nueva\_1.htm](http://www.upct.es/~nano-bio/pagina_nueva_1.htm), Universidad Politécnica de Cartagena, Cartagena, Spain , Europe, Nov 6-7-8, (2007)

**Keynote Speaker:** 4th. World Congress on Biomimetics, Artificial Muscles and Nano-Bio (Biomimetics and Nano-Bio 2007, [www.world-congress.net](http://www.world-congress.net), [www.upct.es/~nano-bio/pagina\_nueva\_1.htm](http://www.upct.es/~nano-bio/pagina_nueva_1.htm), Universidad Politécnica de Cartagena, Cartagena, Spain , Europe, Nov 6-7-8, (2007)

**Session Chair:** 4th. World Congress on Biomimetics, Artificial Muscles and Nano-Bio (Biomimetics and Nano-Bio 2007, [www.world-congress.net](http://www.world-congress.net), [www.upct.es/~nano-bio/pagina\_nueva\_1.htm](http://www.upct.es/~nano-bio/pagina_nueva_1.htm), Universidad Politécnica de Cartagena, Cartagena, Spain , Europe, Nov 6-7-8, (2007)

**Chair:** Membership and Marketing Committee, New Mexico Biotechnology and Biomedical Association (NMBBA), <http://nmbio.org/>, Albuquerque and Santa Fe, NM (2004-2006)

**Member of the Board of Directors:** New Mexico Biotechnology and Biomedical Association (NMBBA), <http://nmbio.org/>, Albuquerque and Santa Fe, NM (2004-2006)

**General Co-Chair with**  **Noble Laureate** **Professor Pierre Gilles** **De Gennes,** <http://newsletter.epfl.ch/alliance/index.php?module=epflfiles&func=getFile&fid=17&inline=1>, the 3rd. World Congress on Biomimetics, Artificial Muscles and Nano-Bio, with **Dr. Piergeorgio Tozzi, MD, as Congress Chair** (Biomimetics and Nano-Bio BAMN 2006), May 25-27, Lausanne, Switzerland, (2006)

**Keynote Speaker:** 3rd. World Congress on Biomimetics, Artificial Muscles & Nano-Bio, <http://newsletter.epfl.ch/alliance/index.php?module=epflfiles&func=getFile&fid=17&inline=1>, (Biomimetics and Nano-Bio 2006, [www.world-congress.net](http://www.world-congress.net)), May 25-27 , Lausanne, Switzerland, (2006)

**General Chair** with Noble Laureate **Professor Pierre Gilles De Gennes:** 2nd. World Congress on Biomimetics and Artificial Muscles (Biomimetics and Nano-Bio 2004, [www.world-congress.net](http://www.world-congress.net)), December 5-8, (2004), Albuquerque, NM, USA

**Session Chair:** 2nd. World Congress on Biomimetics and Artificial Muscles (Biomimetics and Nano-Bio 2004, [www.world-congress.net](http://www.world-congress.net)), December 5-8, (2004), Albuquerque, NM, USA

**General Co-Chair** with Noble Laureate **Professor Pierre Gilles De Gennes**: First World Congress on Biomimetics and Artificial Muscles (Biomimetice 2002, [www.world-congress.net](http://www.world-congress.net)), December 9-11, (2002), Albuquerque Convention center, Albuquerque, New Mexico, USA

**Member of the Electroactive Polymer Actuators and Devices Program Committee**, SPIE 1997-2007 North American Congress on Smart Structures and Materials, San Diego, California, March (1997-Present)

**Member of the International Program Committee**, 1997 IEEE Robotics & Automation Conference, (1997)

**Member**: New York Academy of Sciences (1997-Present)

**Member of the Smart Materials Program Committee**, SPIE 1997 North American Congress on Smart Structures and Materials, San Diego, California, February (1997-2002)

**Session Chair**, Smart Materials, SPIE (1997) North American Congress on Smart Structures and Materials, San Diego, California, February (1997)

**Member of the International Advisory Board: 4th. International Conference on Intelligent Materials**, ICIM’97 June (1997), Tokyo, Japan

**Program Chair**: National Science Foundation’s 1996 Design and Manufacturing Grantees Conference, January (1996)

**Member**: US National Committee on Vibrations and Noise, (1994-1996)

**Member**: Smart Materials Program Committee, SPIE 1996 North American Congress on Smart Structures and Materials, San Diego, California, February (1996)

**Session Chair**, Smart Materials, SPIE 1996 North American Congress on Smart Structures and Materials, San Diego, California, February (1996)

**Member**: International Advisory Board of the 3rd. International Conference on Intelligent Materials, ICIM’96 and 3rd. European Conference on Smart Structures and Materials, June 3-5, (1996), Lyon, France

**Chair**: Technical Program Committee, Fourth International Congress on Environmentally Conscious Design and Manufacturing, July 23-25, Cleveland, Ohio, (1996)

**Plenary Speaker**: Fourth International Congress on Environmentally Conscious Design and Manufacturing, July 23-25, Cleveland, Ohio, (1996)

**Member of the National Science Foundation Panel:** Design & Manufacturing (1995)

**Co-Chair: T**he Technical Program Committee of the Second Sandia-UNM-ASME Agile Manufacturing Conference on Virtual Manufacturing, March 1995, Albuquerque, New Mexico

**Member:** The Smart Materials Program Committee, SPIE 1995 North American Congress on Smart Structures and Materials, San Diego, California, February-March (1995)

**Member**: American Institute of Aeronautics and Astronautics, AIAA (1994)

**Symposium Chair**: Smart Materials, SPIE 1995 North American Congress on Smart Structures and Materials, San Diego, California, February-March (1995)

**Co-Chair**: Second International Congress on Environmentally Conscious Manufacturing, August 29-September 3, Arlington, Virginia, (1993)

**Co-Chair:** The Technical Program Committee of the First Sandia-UNM-ASME Agile Manufacturing Conference on Rapid Prototyping, October 1993, Albuquerque, New Mexico.

**Member**: The Smart Materials Program Committee, SPIE 1993 North American Congress on Smart Structures and Materials, Albuquerque, New Mexico, February (1993)

**Symposium Chair**: Smart Materials, SPIE 1993 North American Congress on Smart Structures and Materials, Albuquerque, New Mexico, February (1993)

**Member**: US National Stirring Committee, 14th. Biennial ASME Vibrations Conference, Albuquerque, NM, September (1993)

**Cluster Chair**: Vibrations and Dynamics of Flexible Robot Manipulators, the 14th. Biennial ASME Vibrations Conference, Albuquerque, NM, September (1993)

**Cluster Chair**: Smart Materials and Structures, the 14th. Biennial ASME Vibrations Conference, Albuquerque, NM, September (1993)

**Co-Chair**: Local Program Committee and Member of the International Program Committee of International Symposium of Robotics and Manufacturing : Recent Trends in Research, Education and Applications, October, (1992), Santa Fe, New Mexico

**Member:** The Smart Materials Program Committee of the First International Congress on Smart Materials and Structures, Alexandria, Virginia, November, (1992)

**Co-Chair**: First International Congress on Environmentally Conscious Manufacturing, September 17-20, Santa Fe New Mexico, (1991)

**Co-Chair**: 27th. Annual Conference of Society of Engineering Science, October 21-26, (1990), Santa Fe, New Mexico

**Chair & Session Organizer**: Reactive Particle Systems, 20th. FPS Powder Science & Technology International Symposium, Boston, MA, August (1989)

**Co-Chair**: 27th. ASME National Symposium on "Hazardous Waste-Impact Mitigation through Innovative Technology, Albuquerque, New Mexico, May (1989)

**Member**: International Program Committee, Second International Symposium on "Robotics and Manufacturing," Albuquerque, NM, November (1988)

**Chair and Session Organizer**: Reactive Particles, 19th. FPS Powder Science and Technology Symposium, Santa Clara, Cal., July (1988)

**Program Chair**: 26th ASME Symposium on "New Trends In Automated Manufacturing," Albuquerque, NM, May (1987)

**Session Organizer** **and Chair**: IEEE-ISE International Symposium, Albuquerque, NM, May (1987)

**Session Chair**: IASTED International Symposium on Robotics and Automation, Santa Barbara, CA, May (1987)

**Co-Chair:** The National Program Committee and member of the International Program Committee of International Symposium of Robotics: Modeling, Control, and Education, Nov. (1986), Albuquerque, N.M.

**Program Chair**: ASME National Symposium on "Intelligent Machines and Robotics", Albuquerque, NM, May (1986).

**Session Chair**: Robot Engineering Education, ASME National Symposium on "Intelligent Machines and Robotics", Albuquerque, NM, May (1986).

**Session Co-Chair**: Pore Characterization of Powders and Granular Materials, Fine Powder Society's Annual Conference, San Francisco, Calif., July (1986).

**Fellow**: National Academy of Inventors, (2015), USA

**Member**: International Pyrotechnics Society, (1986), USA

**Fellow**: American Society of Mechanical Engineers, (1986), ASME

**Fellow**: Institute of Physics, United Kingdom, (2001)

**Fellow:** Royal Society of Chemistry, (2015)

**Member**: Tau Beta Pi, Engineering Honor Society, (1986), (USA)

**Member**: Sigma Xi, the Scientific Research Society, (1986), (USA)

**Director**: ASME, New Mexico Section, (1985-1992)

**Site Proctor**: IEEE National Video Conference, "Robot Dynamics and Control", Albuquerque, NM, February (1985).

**Senior Member**: Society of Manufacturing Engineers, (1985), USA

**Member**: Industrial Mathematics Society, (1985), USA

**Member**: New Mexico Academy of Sciences, Santa Fe, NM, (1984)

**Member**: American Society for the Advancement of Science, (1984), USA

**Member**: U.S. Institute of Colloid & Surface Sciences, (1982), USA

**Member**: The American Academy of Mechanics, (1982), USA

**Member**: U.S. National Society of Professional Engineers (NSPE) New Mexico Section and New York Section, (1982), USA

**Member**: International Fine Particle Society, (1981), USA

**Member**: The Society of Engineering Science, (1981), USA

**Member**: Society for Natural Philosophy, (1974), USA

***7. Journal Editorial Experience:***

**Member of Editorial Board: Int. Journal of Bionics and Biomimetics** and a review Editor of specialty section of **Frontiers in Bioengineering and Biotechnology and Frontiers in Robotics and AI**, since 2014

**Member of the Editorial Board: Int. Journal of Advanced Robotic Systems,** InTech Publishers, Europe, Rijeka, Croatia, since 2012

**Topic Editor-in-Chief, Bioinspired Robotics, Int. Journal of Advanced Robotic Systems,** InTech Publishers, Europe, Rijeka, Croatia, since 2012

**Member of the Editorial Board: Journal of Soft Robotics,** Mary Ann Liebert, Inc., publishers**,** 140 Huguenot Street – 3rd Floor**,** New Rochelle, NY 10801-5215, since 2011

**Member of the Editorial Board: Actuators Journal,** Published by the Multi-Disciplinary Publishing Institute, Basel, Switzerland, since (2012)

**Associate Editor: Smart Nanosystems in Engineering and Medicine International Journal** (ISSN: 2167‐5813). GINTEM Publishing, a division of Global Institute of Nanotechnology, Fayetteville, AR, USA, since 2010

**Guest Editor: Journal of Smart Materials and Structures**, Special Issue on Artificial Muscles, Volume 20, Number 12, December 2011

**Member of the Editorial Board: Advances in Materials Research, *An International*** Journal, Techno Press (Inaugural issue to come out in 2012)

**Series Editor with Professor Dr. Hans-Jörg Schneider** **, “Smart Materials Book Series”,** Royal Society of Chemistry Publishers, Dr. Leanne Marle MRSC, Commissioning Editor, RSC Publishing, Royal Society of Chemistry, Thomas Graham House, Science Park, Milton Road, Cambridge CB4 0WF, UK (2011)

**Associate Editor**: **Recent Patents In Biomedical Engineering International Journal**, Bentham Science Publishers Ltd., Oak Park, IL 60301-0446, USA, 2009-continuing

**Associate Editor**: Editorial Advisory Board, **International Journal of Smart Materials and Structures**, IOP press, England, since 1992

**Series Editor**: Springer-Verlag Series on **High Pressure Shock Compression of Solids**", Springer Publishing Company, Since 1992

**Founding Editor and Editor-in-Chief**: **International Journal of Environmentally Conscious Design & Manufacturing**, ECM Press, Albuquerque, New Mexico, 1990, **NOW CHANGED TO** International Journal of Environmentally Intelligent Design and Manufacturing.

**Member**: Editorial Advisory Board, **Int. J. Bulk Solids Handling**, l98l-1994

**Member**: Editorial Advisory Board, **Int. J. Storing, Handling and Transportation of Bulk**, 1994-present

**Member**: Editorial Advisory Board, ”**International Journal of Modeling & Scientific Computing**”, 1992-2001

**Member**: Editorial Advisory Board, **Journal of Intelligent & Fuzzy Systems**, John Wiley, 1992-1998

**Member**: Editorial Advisory Board, **Scientia Iranica**, 1993

**Editor-in-Chief**: **Iranian. J. Sci. Tech**., vol.4-vol.7, Pergamon Press, Oxford, England; period: 9/l/74 - 9/l/80

**Member**: Editorial Advisory Board, **International J. Sci. Tech**., 1985

**Member**: Editorial Advisory Board, Int. **J. Powder Handling & Processing**, 1988

***8. Teaching Experience and Interests:***

***Recently Taught Courses:***

Mechanical Vibrations (MEE471), Robot Dynamics and Control (MEE 444), Capstone Design IV (MEE 488), Directed Studies in Biomedical Engineering (MEE697-1), Advanced Vibrations (MEE 573), First Capstone Design course MEE487 as well as a Directed Study Graduate Course (MEE697-2) on Advanced Medical Implants, Smart Materials (MEE555) as well as Design of Smart Systems (MEE 697-03), Design I-Kinematic Design of Mechanisms and Machines (MEE380). He also team teaches GEE298 Nanoscience and Nanoengineering course with Professor Rosemary Smith of Electrical and Computer Engineering department in connection with Nanomechanics and Molecular Motors. He also team teaches Introduction to Biomedical Engineering (INT 121) with Professor Rosemary Smith to Junior and Senior students and INT 421 (Selected Topics in Biomedical Engineering) to Senior Students. He has also taught Mechanics of Composite Materials (MEE450) as well a Systems Dynamics and Control (MEE370) to Junior and Senior students as well as optional Design II (MEE498) to senior students.

At the University of New Mexico (UNM), he taught Robot Engineering I & II, ME 482/582 (4 credits) or Smart Materials & Structures, ME 562 (3 credits) to graduate students, Machine Component Design, ME358 (3 credits) to seniors, or the capstone machine design course ME359 (4 credits) to graduating seniors and Computer-Aided Design and Manufacturing, CAD/CAM, ME484/584 (3 credits) to seniors and graduate students, as well as number of directed study courses such as Biotechnology, Biomechatronics, Design Intelligence or Smart Materials & Structures (ME 459, 559, 462), to selected undergrad or graduate students. He normally taught either Machine Component Design, ME358 (3 credits) to seniors, or the capstone design course, ME359 (4 credits) to graduating seniors and Computer-Aided Design and Manufacturing, CAD/CAM, ME484/584 (3 credits) to seniors and Graduate students, as well as number of directed study courses such as Biotechnology, Biomechatronics, Design Intelligence or Smart Materials & Structures (ME 459, 559, 462, respectively, to selected undergrad or graduate students.

# ***9. Research Experience and Interests:***

Smart/Intelligent Materials, Structures and Systems, Smart Aerospace and Marine Structures, Biomimetics and Artificial Muscles, Mechatronics, Electroactive Polymers and Ionic Polymer Metal Composites (IPMCs), Shape Memory Alloys (SMAs) and Shape Memory Polymers (SMPs), Advanced Nanocomposites, Environmentally Intelligent Design and Manufacturing, Biologically-Inspired Engineering Systems (BIES), Biologically-Inspired Robotic Devices and Systems (BIRDS), Nano-Bio Engineering, Intelligent Robotic Systems, Robotic Surgery, Health Engineering, Biomedical Engineering, Heart Assist Systems, Left Ventricular Assist Systems (LVAS), Heart Failure Prevention, Bionic Vision and Ophthalmological Engineering as well as Neuro and Endovascular Surgical Tools and Medical Implants.

***10. Masters Students and Theses (75):***

*(Listing the most recent ones first)*

75 **Arezoo Ebrahimi**, “Control of Robotic Microsurgery”, Chair of Committee of Study with Professors Vince Caccese and Xudong Zheng, Department of Mechanical Engineering, the University of Maine, Orono, ME 04469, **M. Sci., May, 2016**

74 **Yousif Mohamed**, “Applications of IPMC Artificial Muscles To Correct Right Atrial Fibrillation”, Chair of Committee of Study with Professors Vince Caccese and Xudong Zheng, Department of Mechanical Engineering, The University of Maine, Orono, ME 04469, **M. Sci., May, 2015**

73 **Seyed Navid Mahpeykar**, “Design, Development and Fabrication of Advanced High-Precision Robotic Systems for Microsurgery”, Chair of Committee of Study with Professors Vince Caccese and Xudong Zheng, Department of Mechanical Engineering, and Professor Rick Eason, Department of Electrical and Computer Engineering, the University of Maine, Orono, ME 04469, **M. Sc., May, 2014.**

72 **Mohammad Khalili**, “Design and Development of A Magneto-Rheological Fluid (MRF)-based Automatic Transmission for Cars”, Chair of Committee of Study with Professors Vince Caccese and Xudong Zheng, Department of Mechanical Engineering, and Professor Rick Eason, Department of Electrical and Computer Engineering, The University of Maine, Orono, ME 04469, **M. Sci., December, 2013.**

71 **Siavash Gheshmi**, “Design and Development of Advanced Surgical Robotic Systems”, Chair of Committee of Study with Professors Vince Caccese and Alireza Sarvestani, Department of Mechanical Engineering, The University of Maine, Orono, ME 04469, **M. Sc., December 2012.**

70 **Michael Alan Edgecomb II**, “Finite Element and Experimental Analysis of Head Protection Gear to Mitigate Head Injuries Due to Falls”, member of Thesis Committee with Professors Vince Caccese (Chair), and Zhihe Jin, Department of Mechanical Engineering, The University of Maine, Orono, ME 04469, **M. Sci., December, 2012**

69 **Thomas Rolfson**, M.E. Engineering Physics, Non-Thesis, 36 credit hours of Graduate Courses, Chair of Committee with Professors James McClymer and C.T. Hess, Department of Mechanical Engineering, and Department of Physics, The University of Maine, Orono, ME 04469, **M. Sci., December 2011**

68 **Scott Prince**, “Application of Particle Swarm Optimization to Robotic Inverse Kinematics”, Chair of Committee with Professors Senthil Vel, Department of Mechanical Engineering, and Professor and Rick Eason, Department of Electrical and Computer Engineering, The University of Maine, Orono, ME 04469, **M. Sci., May, 2010.**

67 **Ronnie Oliver**, “Design & Development of A Stair Climbing Companion Robotic System”, Chair of Committee with Professors Senthil Vel, Michael Boyle, Department of Mechanical Engineering, and Professor and Rick Eason, Department of Electrical and Computer Engineering, The University of Maine, Orono, ME 04469, **M. Sci., pending.**

66 **Mehmet Ali Sen**, “Proper Orthogonal Development Methodology to Understand Underlying Physics of Rough-Wall Turbulent Boundary Layer”, Co-Chair of Committee with Professor Kiran Bhaganagar, Department of Mechanical Engineering, The University of Maine, Orono, ME, 04469, **M. Sci., December, 2007.**

65 **Ujwal Deole**, “Artificial Muscle Microgrippers”, Co-Chair of Committee with Professor Ron Lumia, Department of Mechanical Engineering, The University of New Mexico, Albuquerque, New Mexico, **M. Sci., December, 2005.**

64 **Bryan Romero**, “Design of a Mini-Testing Machine for Characterization of Artificial Muscles”, Department of Mechanical Engineering, University of New Mexico, Albuquerque, New Mexico, **M.Sc., May 2001**

63 **German Chamorro**, "Swimming Robotic Structures Equipped with IPMC Artificial Muscles", Department of Mechanical Engineering, University of New Mexico, Albuquerque, New Mexico, **M.Sc., May 2000**

62. **Tariq Rashid**, “Optimization of Artificial Muscles Manufacturing Process using Orthogonal Arrays and the Taguchi Method” Department of Mechanical Engineering, University of New Mexico, Albuquerque, New Mexico, **M.Sc., (December 1998)**

61. **Casildo Romero**, "Mechanics of Crenulation in Nonlinear Materials", Department of Mechanical Engineering, University of New Mexico, Albuquerque, New Mexico, **M.Sc., (August 1998)**

60. **Mark Anderson**, "Simultaneous PVDF/VISAR Measurement Technique For Isentropic Loading With Graded Density Impactors", Department of Mechanical Engineering, University of New Mexico, Albuquerque, New Mexico, **M.Sc., (May 1998)**

59. **David Hickerson**, “Modeling and Control of A Hybrid Manipulator”, Department of Mechanical Engineering, University of New Mexico, Albuquerque, New Mexico, **M.Sc., (May 1998)**

58. **Clint Hall**, "Shock Hugoniot and Release States in Concrete Mixtures with Different Aggregate Sizes from 3 to 23 GPa", Department of Mechanical Engineering, University of New Mexico, Albuquerque, New Mexico, **M.Sc., (May 1998)**

57. **Jeffrey Lantz**, "Design of An Environmentally Conscious Fluorescent and Mercury Lamps", Department of Mechanical Engineering, University of New Mexico, Albuquerque, New Mexico, **M.Sc., (May 1996)**

56. **Jim Arellanes**, "Smart Structures with Embedded SMA's", Department of Mechanical Engineering, University of New Mexico, Albuquerque, New Mexico, **M.Sc., (May 96)**

55. **Guoping Wang**, "Large Deflection Analysis of An Elastic Beam Structure Embedding A Shape Memory Alloy Wire Actuator", Department of Mechanical Engineering, University of New Mexico, Albuquerque, New Mexico, **M.Sc., (May 1996)**

54. **Eric Steinmaus**, “Fuzzy Control of A Drill Press", Department of Mechanical Engineering, University of New Mexico, Albuquerque, New Mexico, **M.Sc., (May 1995)**

53. **Shijion Zhou**, “Design of A Sip-and-Puff Switch For Environmental Control for Quadriplegics”, Department of Mechanical Engineering, University of New Mexico, Albuquerque, New Mexico, **M.Sc., (May 1995)**

52. **Anthony Tafoya**, "Dynamic Flow System for High Flow Insufflation in Laproscopic Surgery", Department of Mechanical Engineering, University of New Mexico, Albuquerque, New Mexico, **M.Sc., (December 1994)**

51. **Martin Bachicha**, “Magnetically-Actuated, Direct-Drive Snake-Like Flexible Robotic Structures Design and Fabrication", Department of Mechanical Engineering, University of New Mexico, Albuquerque, New Mexico, **M.Sc., (December 1994)**

50. **Alan Nehring**, "Engineering Benchmarking", Department of Mechanical Engineering, University of New Mexico, Albuquerque, New Mexico, (Co-chairman of M.Sc. Committee), **M.Sc., (May 1994)**

49. **Daniel Archuleta**, "Design of a Digital Controller for Electromagnetic Ball Levitator Systems", Department of Mechanical Engineering, University of New Mexico, Albuquerque, New Mexico, (co-chair of M.Sc. committee), **M.Sc., (May 1994)**

48. **Supriti Mukherjee**, “Three-Dimensional Electroplating and Free-Form Fabrication", Department of Mechanical Engineering, University of New Mexico, Albuquerque, New Mexico, (co-chair of M.Sc. committee) **M.Sc., (May 1994)**

47. **Ali Daemi**, "CAD/CAM Data Interfacing For Robotically-Assisted 3-D Rapid Prototyping", Department of Mechanical Engineering, University of New Mexico, Albuquerque, New Mexico, **M.Sc., (May 1994)**

46. **Thomas Wilson**, "Dynamic Modeling and Computer Simulation of A Two-Link Flexible Robot Manipulator", Department of Mechanical Engineering, University of New Mexico, Albuquerque, New Mexico, (co-chair of M.Sc. committee), **M.Sc., (May 1994)**

45. **Joseph Jablonski**, "Strategic Planning and Implementing Total Quality Management In A DOD Environment", Department of Mechanical Engineering, University of New Mexico, Albuquerque, New Mexico, (co-chair of M.Sc. Committee), **M.Sc., (May 1993)**

44. **Timothy Chavez**, “Robotically-Assisted Environmental Restoration and Waste Management", Department of Mechanical Engineering, University of New Mexico, Albuquerque, New Mexico, **M.Sc., (May 1993)**

43. **Mehran Mojarrad**, "Assembly Work Space Analysis For An IBM 7565 Robot Manipulator For Applications To Chemical Treatments of Silicon Wafers", Department of Mechanical Engineering, University of New Mexico, Albuquerque, New Mexico, **M.Sc., (May 1992)**

42. **Sainan Feng**, “Kinematic Modeling of Elastic Robots", Department of Mechanical Engineering, University of New Mexico, Albuquerque, New Mexico, **M.Sc., (May 1991)**

41. **Bill M. Miera**, (AFWL),"Numerical Simulation of Rail Launcher Performance" Department of Mechanical Engineering University of New Mexico, Albuquerque, New Mexico, **M.Sc., (August 1990)**

40. **Graham Bartlett**, "A CIM Planning Methodology For Analysis of Factory Automation”, University of New Mexico, Mechanical Engineering Department, Albuquerque, New Mexico (co-chair of M.Sc. Committee), **M. Sc., (May 1990)**

39. **John McSheehy**, "Static, Kinematic, and Dynamic Analyses of A Four-Bar Linkage Chain With Application For Design", Department of Mechanical Engineering, University of New Mexico, Albuquerque, New Mexico, **M.Sc., (May 1989)**

38. **Lawrence T. James**, "Combined Natural Convection and Radiant Heat Transfer, " Department of Mechanical Engineering, University of New Mexico, Albuquerque, New Mexico, (co-chair of M.Sc. committee), **M.Sc., (December 1989)**

37. **Adam Slavin**, "Modeling of Robotic Elastic Deformation", Department of Mechanical Engineering, University of New Mexico, Albuquerque, New Mexico, **M.Sc., (December 1989)**

36. **Ted Sahd**, "Manufacturing Light Aircrafts in New Mexico: Possible Alternatives", Department of Mechanical Engineering, University of New Mexico, Albuquerque, New Mexico, (co-chair of M.Sc. Committee), **M.Sc., (December 1989)**

35. **Donald J. Christison**, "Development of A Bar Code Scanner Vision System For Robotic Manipulation of Randomly Oriented Objects", Department of Mechanical Engineering, University of New Mexico, Albuquerque, New Mexico, **M.Sc., (May 1989)**

34. **Carmine Izzi**, "CAD-Based Two-Dimensional Feature Recognition For CNC Machining", Department of Mechanical Engineering, University of New Mexico, Albuquerque, New Mexico, **M.Sc., (May 1989)**

33. **John Halbleib**, "CAD-Based Automatic Tool Selection and CNC Machining Based on Features", Department of Mechanical Engineering, University of New Mexico, Albuquerque, New Mexico, **M.Sc., (May 1989)**

32. **Donald R. Striker**, "Automated Storage Retrieval System Operation and Performance Optimization", Department of Mechanical Engineering, University of New Mexico, Albuquerque, New Mexico, **M.Sc., (May 1989)**

31. **Jeffrey D. Hanan**, "A Rule-Based Advisor For Configuring and Sizing CIM Systems Based on Performance Criteria", Department of Mechanical Engineering, University of New Mexico, Albuquerque, New Mexico, **M.Sc., (May 1989)**

30. **Bijan Pejman**, "Heat Transfer in Robotic Gloves", Department of Mechanical Engineering, University of New Mexico, Albuquerque, New Mexico, (Co-chairman of M.Sc. committee), **M.Sc., (May 1989)**

29. **Glen A. Smith**, (AFWL), " Investigation on the Effects of Mechanical Coupling of the Programmed Motion of A Robot Arm and Independent Periodic Base Disturbances," Department of Mechanical Engineering, University of New Mexico, Albuquerque, New Mexico, **M.Sc., (December 1988)**

28. **John David Novat**, "PC Control of A DC Motor", Department of Mechanical Engineering, University of New Mexico, Albuquerque, New Mexico, **M.Sc., (December 1988)**

27. **Hadie Fotouhie**, "Code Development for Convective Burning of Pyrotechnic Materials", Department of Mechanical Engineering, University of New Mexico, Albuquerque, New Mexico, (Co-chairman of M.Sc. committee), **M.Sc., (May 1988)**

26. **Chung C. Huang**, "Automated Mesh Generation," Department of Mechanical Engineering, University of New Mexico, Albuquerque, New Mexico, (Co-chairman of M.Sc. committee), **M.Sc., (May 1988)**

25. **Massoud Ahghar**, "Development of a Coordinate Measuring System for CNC Machining of Complex Surfaces", Department of Mechanical Engineering, University of New Mexico, Albuquerque, New Mexico, **M.Sc., (May 1988)**

24. **Sheryl H. Norenberg**, (SNL) "Burn Rate Studies of Titanium Subhydride Potassium Perchlorate Pyrotechnic Materials", Department of Mechanical Engineering, University of New Mexico, Albuquerque, New Mexico, **M.Sc., (May 1988)**

23. **Hamid Ashouri**, "Design, Construction, and Modeling of An Articulate, Five-Fingered Computer-Controlled Robot Hand", Mechanical Engineering Department, University of New Mexico, Albuquerque, New Mexico, **M.Sc., (May 1987)**

22. **Boojoong Yong**, "Modeling of Robotic Workspaces for Multiple-Robot Systems", Department of Mechanical Engineering, University of New Mexico, Albuquerque, New Mexico, **M.Sc., (June 1987)**

21. **Yian Chang**, "Temperature Distribution In a Rod Moving In a Nonhomogeneous Temperature Field", Department of Mechanical Engineering, University of New Mexico, Albuquerque, New Mexico, (Co-chairman of M.Sc. committee), **M.Sc., (May 1987)**

20. **Robert Gobel**, (AFWL) "Robotic Locational Identification by Means of a Scanning Laser Beam", University of New Mexico, Mechanical Engineering Department, Albuquerque, New Mexico, **M.Sc., (December 1986)**

19. **Timothy Rude**, (AFWL) "Operation of a Bridgeport Boss 5 CNC Mill From a Zenith 158 PC", Department of Mechanical Engineering University of New Mexico, Albuquerque, New Mexico, **M.Sc., (December 1986)**

18. **Eming Chen**, "Design and Analysis of a Tricycle Robotic Carriage System with a Mounted Manipulator," Department of Mechanical Engineering, University of New Mexico, Albuquerque, New Mexico, **M.Sc., (December 1986)**

17. **A. Akbarzadeh**, "Design and Construction of a 6-Axis Robot Manipulator; LOBOT-l with voice and vision", Mechanical Engineering Department, University of New Mexico, Albuquerque, New Mexico, **M.Sc., (September 1986)**

16. **J. Devaprasad**, "Development of Semi-Conductor Thin Film Temperature Using a Laser", Mechanical Engineering Department, University of New Mexico, Albuquerque, New Mexico, **M.Sc., (August 1986)**

15. **Thomas Grant McDonald**, "Measuring Friction Coefficient and Contact Resistance Inside A Scanning Auger Microscope", University of New Mexico, Mechanical Engineering Department, Albuquerque, New Mexico, (co-chair of M.Sc. Committee), **M.Sc., (May 1986)**

14. **Robert A. Hart**, "Dynamic Modeling of A Legged Locomotion Vehicle", University of New Mexico, Mechanical Engineering Department, Albuquerque, New Mexico (co-chair of M.Sc. Committee), **M.Sc., (May 1986)**

13. **Robert T. Cook**, "Design and Modeling of a Robotic Arm with an Ultrasonic Distance Sensor", Mechanical and Industrial Engineering Department, Clarkson University, Potsdam, New York, **M.Sc., (May l984)**

12. **David Campbell**, "Inverse Kinematic Solutions for Slightly Flexible Robotic Manipulators", Mechanical and Industrial Engineering Department, Clarkson University, Potsdam, New York, **M.Sc., (December l984)**

11. **Robert Olsen**, "Frequency Distribution of Coordination Number and Contact Force in a Randomly Packed Bed of Spheres by a Titration Technique", Mechanical and Industrial Engineering Department, Clarkson University, Potsdam, New York, **M.Sc., (December l984)**

10. **Allan Tabesh**, "Design and Modeling of a Special Gripper for GE-P50-Robot", Mechanical and Industrial Engineering Department, Clarkson University, Potsdam, New York, **M.Sc., (December l984)**

9. **Ioannis Minis**, "Computerized and Automated Techniques in Determining the Frequency Distribution of Voids in Granular Materials", Mechanical and Industrial Engineering Department, Clarkson University, Potsdam, New York, **M.Sc., (August l983)**

8. **Mike Caporali**, "Design and Bond Graph Modeling of a Multi-Fingered Robot Hand", Mechanical and Industrial Engineering Department, Clarkson University, Potsdam, New York, **M.Sc., (August l982)**

7. **Gary Sweed**, "Computerized and Automated Determination of Frequency Distribution of Voids in Granular Materials", Mechanical and Industrial Engineering Department, Clarkson University, Potsdam, New York, **M.Sc., (May 1982)**

6. **Ahmad Shahrpass**, "Frequency Distribution of Voids in 2-D Granular Materials", Mechanical and Industrial Engineering, Department, Clarkson University, Potsdam, New York, **M.Sc., (May l98l)**

5. **Hooshang Jozavi**, "Acoustic Response Modifications in Elastic Media Due to Presence of Cracks", Mechanical and Industrial Engineering Department, Clarkson University, Potsdam, New York, **M.Sc., (December l980)**

4. **David J. Wells**, "Fuzzy Set Theory and Fault Diagnosis of Mechanical Systems", Mechanical and Industrial Engineering Department, Clarkson University, Potsdam, New York, **M.Sc., (May l980)**

3. **M. Balakrishnan**, "Large Amplitude Oscillations of Hyperelastic Shells", Mechanical Engineering Department, Shiraz University, Shiraz, **M.Sc., (May l976)**

2. **Michael Gascoigne**, "A Method for Optimization of Stochastic Processes", Mechanical Engineering Department, Shiraz University, Shiraz, Iran, **M.Sc., (May l975)**

1. **Ahmad Ajal Looian**, "Fluid Dynamics of Magnetic Suspensions", Mechanical Engineering Department, Shiraz University, Shiraz, Iran, **M.Sc., (May l974)**

***11. Ph.D. (Doctoral) Students and Dissertations (30)***

*(Listing the most recent ones first)*

30 **Seyed Ehsan Tabatabaie**, “Design, Development, Modeling and Simulation of Linear, Looped, cylindrically slit and Torsional IPMC Actuators and Sensors”, Chair of Doctoral Committee, Department of Mechanical Engineering, The University of Maine, **Ph. D., expected May, (2019)**

29 **Hamed Saberi**, “Traction Force Measurements Of Live Bovine Aortic Endothelial Cells With Micro Pillars And Multiphysics Modeling With Novel Ionic Polymer Metal Composite Assays For Real Time Measurements”, Chair of Doctoral Committee, Department of Mechanical Engineering, The University of Maine, **Ph. D., August (2017)**

28 **Radek Glaser**, “Comparative Experimental, Finite Element and Dimensional Exploration of the Inflation, Deflation and Leakage of a Thin Membrane Space Structure” , co-Chair of the Dissertation Committee with Professor Vince Caccese as Chair, and Professors Abedi, EECE and Professors Jin and Thompson of MEE, University of Maine, **Ph.D, August 2016**

27 **Hind Derar**, “Applications of Smart Materials to Orthopaedic Total Hip Replacement: Design of Stemless Hip Replacement Prosthesis”, Chair of Doctoral Committee with Professors Vince Caccese and Xudong Zheng, Department of Mechanical Engineering, and Professor Steve Elmer, Dept. Kinesiology and Integrative Physiology Michigan Technological University and Dr. Andy Hodge, MD, Director: Institute of Mobility and Longevity, Glendale Az., **Ph. D., May (2016)**

26 **William (Kyle) Spratt**, “Development of an Ultrasonic Torsion Sensor”, Co-Chair of Doctoral Committee with Professors John Vetelino of Electrical and Computer Engineering Department as Chair and Ashish Deshpande, Department of Mechanical Engineering, UT Austin and Professor Rick Eason, Department of Electrical and Computer Engineering, The University of Maine, **Ph. D., withdrew**

25 **Seyed Mahdi Mohammadi**, “Biomedical Engineering research and Development on Addressing Urethral Incontinece and Bladder Irrigation”, Chair of Doctoral Committee with Professors Vince Caccese and Xudong Zheng, Department of Mechanical Engineering, UMaine, Professor Ashish Deshpande, Department of Mechanical Engineering, UT Austin and Drs. Iradj Khavari, MD and Krishna Bhata, MD, Eastern Maine Medical Center (EMMC), Bangor, ME, **Ph. D., May (2015)**

24 **Marzieh H. Memar**, “Biomechanics and Injury Assessment of Head Impact Due to Falls”, co-Chair of Doctoral Committee with Professors Vince Caccese as Chair, Mechanical Engineering, UMaine and Ashish Deshpande, Department of Mechanical Engineering, UT Austin and Professor Xudong Zheng, Department of Mechanical Engineering, The University of Maine, **Ph. D., May (2015)**

23 Morteza Seidi, “Design and Evaluation of Protective Head Gear to Mitigate Head Injuries Due to Falls””, co-Chair of Doctoral Committee with Professor Vince Caccese as Chair, Mechanical Engineering, UMaine and professor Ashish Deshpande, Department of Mechanical Engineering, UT Austin and Professor Xudong Zheng, Department of Mechanical Engineering, The University of Maine, Ph. D., May (2015)

22 **Yousef Bahramzadeh**, “Multiphysics Modeling and Simulation of Dynamic Curvature Sensing in Ionic Polymer metal Composites (IPMCs) with Application in Soft Robotics”, Chair of Doctoral Committee with Professors Vince Caccese and Senthil Vel, Department of Mechanical Engineering, Professor Richard Eason, Dept. of Electrical and Computer Engineering, UMaine and Professor Maurizio Porfiri, Department of Mechanical and Aerospace Engineering, Polytechnic Institute of New York University, **Ph. D., May, (2014)**

21 **Matt Leland**, “Development of A Wireless IPMC Sensor Network For Inflatable Space Structures”, Chair of Doctoral Committee with Professors Vince Caccese, Department of Mechanical Engineering, and Professor Ali Abedi, Department of Electrical and Computer Engineering, The University of Maine, Orono, ME 04469, **on leave, Ph. D., pending**

20. **Mehran Mojarrad**," Study of Ionic Polymeric Gels As Smart Materials and Artificial Muscles for Biomimetic Swimming Robotic Applications", Department of Mechanical Engineering, University of New Mexico, Albuquerque, New Mexico, **Ph.D., December, (2001)**

19. **Guoping Wang**, "A General Design of Bias Force Shape Memory Alloy (BFSMA) Actuators and An Electrically-Controlled SMA Knee and Leg Muscle Exerciser for Paraplegics and Quadriplegics", Department of Mechanical Engineering, University of New Mexico, Albuquerque, New Mexico,, **Ph.D. (May 1998)**

18. **Robert Alvarez**, "Quantifying Multirate, Parallel and Asynchronous Control Law Implementation Performance Effect", Department of Mechanical Engineering, University of New Mexico, Albuquerque, New Mexico,, **Ph.D., May (1997)**

17. **Ali. A. Tootoonchi**, "Modeling, Design and Manufacturing of Multiple End-Effector Flexible Robotic Systems", Department of Mechanical Engineering, University of New Mexico, Albuquerque, New Mexico, **Ph.D. , May (1996)**

16. **Eming Chen**, "Dynamic Analysis and Experimental Investigation on Position and Force Control for Flexible Link Manipulators“, Department of Mechanical Engineering, University of New Mexico, Albuquerque, New Mexico, **Ph.D., May (1995)**

15. **Hyunsok Pang**, " Kinematics, Dynamics and Control of Hybrid Manipulators", Department of Mechanical Engineering, University of New Mexico, Albuquerque, New Mexico, **Ph.D., May (1995)**

14. **Hossein Sabbagh**, "Modeling of Robot Manipulators Moving in a Viscous Medium", Mechanical Engineering Department, University of New Mexico, Albuquerque, New Mexico, **Ph.D., May (1991)**

13. **Bing Chin Chiou**, "Dynamic Stability of Flexible Robot Manipulators", Mechanical Engineering Department, University of New Mexico, Albuquerque, New Mexico, **Ph.D., (December 1989)**

12. **Vincent B. DeGregorio**, "The Effects of Sample Preparations on the Liquefaction Potential of Sand", Civil and Environmental Engineering Department, Clarkson University, Potsdam, New York, (Co-chairman of Ph.D. Committee), **Ph.D. May (1988)**

11. **Kambiz Salari**, "3-D Numerical Simulation of Turbulent Flow", University of New Mexico, Mechanical Engineering Department, Albuquerque, New Mexico, (Co-chairman of Ph.D. Committee), **Ph.D., December (1988)**

10. **Sherman Wilcox**, "A Motion Analysis of the Phonetic Structure of Finger Spelling", Department of Linguistics, University of New Mexico, Albuquerque, New Mexico, (co-chair of Ph.D. Committee), **Ph.D., May (1988)**

9. **M.A.A. Mohamed**, "Stick-Slip and Friction Noise Theory and Experiments", Mechanical and Industrial Engineering Department, Clarkson University, Potsdam, New York, (co-chairman of Ph.D. Committee), **Ph.D., January (1987)**

8. **Ali Meghdari**, "Kinematics, Deformation Characteristics and Constitutive Equations for Flexible Robot Manipulators", Mechanical Engineering Department, University of New Mexico, Albuquerque, New Mexico, **Ph.D., May (1987)**

7. **Samir Zaki Abdel-Rahman**, "On the Stability of the Liquid-Filled Projectiles", Mechanical and Industrial Engineering Department, Clarkson University, Potsdam, New York, **Ph.D., May (1986)**

6. **Frank Zirilli**, "Free Convection from Parallel Plates", Mechanical and Industrial Engineering Department, Clarkson University, Potsdam, New York, (co-chair of Ph.D. committee), **Ph.D., May (l985)**

5. **Y.T. Kim**, "Kinematics, Dynamics and Nonlinear Control of Robot Manipulators", EECE Department, University of New Mexico, Albuquerque, New Mexico, (co-chair of Ph.D. committee), **Ph.D., March (l985)**

4. **David John Wells**, "Failure Diagnosis for Complex Dynamic Engineering Systems Using Fuzzy Sets and Systems Theory", Mechanical and Industrial Engineering Department, Clarkson University, Potsdam, New York, **Ph.D., July (l984)**

3. **Shu-Sheng J. Siah**, "Two Dimensional Shear Flow of a Granular Material", Civil and Environmental Engineering Department, Clarkson University, Potsdam, New York, (co-chair of Ph.D. committee), **Ph.D., May (l983)**

2. **Kin-Forie Chiou**, "Modeling of Ice Jams in Nonuniform Channels", Mechanical and Industrial Engineering Department, Clarkson University, Potsdam, New York, (co-chair of Ph.D. committee), **Ph.D., (May l982)**

1. **K.W. Chan**, "Dynamic Crack Propagation Using Finite Element Techniques", Mechanical and Industrial Engineering Department, Clarkson University, Potsdam, New York, (co-chair of Ph.D. committee), **Ph.D., (May l982)**

***12. Publications and Patents (651):***

***12A-Refereed Journal Publications (244):***

*(Listing the most recent ones first)*

245 S.E. Tabatabaie and M. Shahinpoor, “Novel Configurations of Slit Tubular Soft Robotic Actuators and Sensors made with Ionic Polymer Metal Composites (IPMCs)“, **Robotics and Automation Engineering Journal**, RAEJ-RW-18-613,  Volume 3 Issue 4, pp: 1-10,- Jul (2018)

244 S.E. Tabatabaie and M. Shahinpoor, “Soft Biomimetic Robotic Looped Haptic Feedback Sensors“, Journal of Robotic Engineering & Automa­tion Technology, Volume 2018; Issue 01**,** pp: 1-10, (2018)

243 R. Glaser, V. Caccese, M. Shahinpoor, “Comparative finite element and experimental analysis of a quasi-static inflation of a thin deployable membrane space structure “, **Journal of Finite Elements in Analysis and Design**, vol. 138, pp. 48-65, (2018)

242 D. Armstrong, B. Najafi and M. Shahinpoor, “Potential Applications of Smart Multi-Functional Wearable Materials to Gerontology”, **Gerontology Journal**, Manuscript No.: 201606007, Published online: January 12, 2017, Published in print, vol.63, pp. 287-298, (2017)

241 M. Alahbakhshi, A. Fallahi, E. Mohajerani, M. R. Fathollahi, F. Afshar Taromi, M. Shahinpoor, “High-performance Bi-stage process in reduction of graphene oxide for transparent conductive electrodes”, **Optical Materials**, vol.64 (2017), pp: 366-375, (2017)

240 A. Fallahi, Y. Bahramzadeh, E. Tabatabaie and M. Shahinpoor, “A Novel Multifunctional Soft Robotic Transducer Made with Poly (Ethylene-co-Methacrylic Acid) Ionomer Metal Nanocomposite”, **Int. Journal of Intelligent Robotics and Applications**, DOI 10.1007/s41315-017-0013-y, Special Issue on Soft Robotics, 22 March (2017)

239 K. Asaka, K. Kim, K. Oguro and M. Shahinpoor, “IPMCs as EAPs: Fundamentals”, Electromechanically Active Polymers, Polymers and Polymeric Composites: A Reference Series, **Springer International Publishing Switzerland**, F. Carpi (ed.), DOI 10.1007/978-3-319-31767-0\_6-1, (2016)

238 M. Shahinpoor, ”Ionic Polymer Metal Composites as Soft Biomimetic Robotic Artificial Muscles”**, RSC Smart Materials Series**, Number 18**,** Royal Society of Chemistry Publishers, pp. 341-363, Thomas Graham House, Science Park, Milton Road, Cambridge CB4 0WF, UK (2016)

237 M. Shahinpoor, ”Ionic Polymer Metal Composites as Dexterous Manipulators and Haptic Feedback/Tactile Sensors for Minimally Invasive Robotic Surgery”**, RSC Smart Materials Series**, Number 18**,** Royal Society of Chemistry Publishers, pp. 311-340, Thomas Graham House, Science Park, Milton Road, Cambridge CB4 0WF, UK (2016)

236 J. G. Michopoulos, M. Shahinpoor, A. Iliopoulos,”Multiphysics Modeling of Nonlinear Ionic Polymer Metal Composite Plates”, **RSC Smart Materials Series**, Number 18, Royal Society of Chemistry Publishers, pp: 285-310**,** Thomas Graham House, Science Park, Milton Road, Cambridge CB4 0WF, UK (2016)

235 J. G. Michopoulos, M. Shahinpoor, A. Iliopoulos, ”A Continuum Multiphysics Theory for Electroactive Polymers and Ionic Polymer Metal Composites”, **RSC Smart Materials Series**, Number 18, Royal Society of Chemistry Publishers, pp: 257-284**,** Thomas Graham House, Science Park, Milton Road, Cambridge CB4 0WF, UK (2016)

234 M. Shahinpoor, ”Ionic Polymer Metal Composites (IPMCs) Optimal Manufacturing”**, RSC Smart Materials Series**, Number 17**,** Royal Society of Chemistry Publishers, pp. 61-147, Thomas Graham House, Science Park, Milton Road, Cambridge CB4 0WF, UK (2016)

233 P. Bakhtiarpour, A. Parvizi, M. Muller, M. Shahinpoor, O. Marti and M. Amirkhani, *“*An External Disturbance Sensor for Ionic Polymer Metal Composite Actuator”, **Smart Materials and Structures International Journal**, Volume 25, Number 1, January 2016, pp. 15008-15014(7), (2016)

232 H. Asanuma, K. Asaka, J. Su, L. Poubel, and M. Shahinpoor, “Smart Contact Oscillations by IPMCs”, **Smart Materials and Structures International Journal**, Volume 25, Number 2, February 2016, pp. 15015-15-022, (2016)

231 M. Shahinpoor, ”Fundamentals of Ionic Polymer Metal Composites (IPMCs)”**, RSC Smart Materials Series**, Number 17**,** Royal Society of Chemistry Publishers, pp. 1-60, Thomas Graham House, Science Park, Milton Road, Cambridge CB4 0WF, UK (2016)

230 A. Fallahi, M. Alahbakhshi, E. Mohajerani, F. Afshar Taromi, A. Mohebbi and M. Shahinpoor, “Cationic Water-Soluble Conjugated Polyelectrolytes/ Graphene Oxide Nanocomposites as Efficient Green Hole Injection Layers in OLEDs”, J. Phys. Chem. C, Volume 119, Number 23, pp 13144–13152, (2015)

229 H. Derar and M. Shahinpoor, “Recent Patents and Designs on Hip Replacement Prostheses”, **Open Biomed Engineering Journal**, vol 9, pp. 92-102, (2015)

228 A. Amiri Moghadam, A. Kouzani, K. Torabi, A. Kaynakand M. Shahinpoor, “Development of a novel soft parallel robot equipped with polymeric artificial muscles”, **Smart Materials and Structures International Journal**,  [Volume 24,](http://iopscience.iop.org/0964-1726/24)[Number 3](http://iopscience.iop.org/0964-1726/24/3), 5017, (2015)

227 M. Mohammadi and M. Shahinpoor, “Noninvasive Urinary Incontinence Control Device”, **ASME** [**Journal of Medical Devices,** Volume 8, Issue 4,](http://medicaldevices.asmedigitalcollection.asme.org/issue.aspx?journalid=128&issueid=930697) Paper No. MED-13-1191, 5 pages, Design Innovation Paper, (2014)

226 A. Fallahi, F. Afshar Taromi, A. Mohebbi, J. D. Yuen and M. Shahinpoor, “A Novel Ambipolar Polymer: From Organic Thin-Film Transistors to Enhanced Air-Stable Blue Light Emitting Diodes”, accepted for publication, Journal of Material Chemistry C, vol. 2, pp 6491-6501, (2014)

225 Y. Bahramzadeh and M. Shahinpoor, “A Review of Ionic Polymeric Soft Actuators and Sensors**”, Int. Journal of Soft Robotics**, Vol. 1, No. 1, pp. 38-52, (2013), **Mary-Ann Lieber, Inc. Publishing, New York, USA,** (2013)

224 D. Chatterjee, N. Hanumaiah, Y. Bahramzadeh and M. Shahinpoor, “Actuation and Sensing Studies of a Miniaturized Five Fingered Robotic Hand Made with Ion Polymeric Metal Composite (IPMC)”, **Advanced Materials Research,** Vol. 740 (2013) pp.: 492-495, **Trans Tech Publications, Switzerland,** (2013)

223 M. Shahinpoor, “Chitosan/IPMC Artificial Muscles”, **Advances in Science and Technology,** Trans Tech Publications, Switzerland, Vol. 79**,** pp.: 32-40**,** (2013)

222M. Shahinpoor, “Muscular Biopolymers”, Book Chapter in “**Topics in Engineered Biomimecry: Biomimetics, Bioinspiration and Bioreplication**”, edited by Akhlesh Lakhtakia and Raul-Jose Martin-Palma, **Elsevier publishers,** Waltham, MA, USA, (2013)

221 R. Glaser, V. Caccese and M. Shahinpoor, “Development of Novel Smart MRF-Gates for Wireless Dynamic Control of Fluid Flow”, **Smart Materials and Structures Journal**, vol. 22, no.1, (17pp), pp. 1-17, (2013)

220 Y. Bahramzadeh and M. Shahinpoor, “Modeling of IPMC Guide Wire Stirrer In Endovascular Surgery”, Chapter 2**, Electroactivity in Polymeric Materials, Edited by Lenore Rasmussen,**  Springer Publications, New York, Heidelberg, Dortrecht, London, vol. 20, no. 9, 094011 (7pp), March (2012)

219 Atul Tiwari, Ravi B. Srivastava, Rajesh K. Saini, Anil K. Bajpai, Lucia H. Innocentini Mei, Shivani B. Mishra, Ashutosh Tiwari, Ashok Kumar, Mohsen Shahinpoor, Golok B. Nando, Subash C. Kundu, and Avrath Chadha, “Biopolymers: An Indispensable Tool for Biotechnology”, Chapter 1 of “**Biotechnology in Biopolymers**”, Editd by Professors Atul Tiwari and Ravi B. Srivastava, **iSmithers-Rapra publishers,** London, (2012)

218. M. Shahinpoor, “Biopolymer/Ionic Polymer Composite Artificial Muscles”, Chapter 10 of **“Biotechnology in Biopolymers**”, Edited by Professors Atul Tiwari and Ravi B. Srivastava, **iSmithers-Rapra publishers,** London, (2012)

217 M. Shahinpoor, “Artificial Muscles: Selected Papers from the 5th World Congress on Biomimetics, Artificial Muscles and Nano-Bio”, in **Smart Materials and Structures International Journal**, Special Section: **Artificial Muscles**, Volume 20, Number 12, pp. 1-3, December 2011.

216 R. Glaser, V. Caccese and M. Shahinpoor, “Shape Monitoring of a Beam Structure from Measured Strain or Curvature”, **Int. Journal of Experimental Mechanics,**  Springer Publishing Company, vol. 51, pp. 1 -16 , July (2011)

215 A.J. McDaid, K.C. Aw, E. Haemmerle, M. Shahinpoor and S.Q. Xie, “ Adaptive Tuning of A 2DOF Controller for Robust Cell Manipulation Using IPMC Actuators”, **J. Micromechanics and Microengineering**, vol. 21, 125004, pp. 1-11, (2011), Institute of Physics (IOP) Publishing Ltd., London, UK, (2011)

214 Mohsen Shahinpoor, “Biomimetic Robotic Venus flytrap (*Dionaea Muscipula Ellis*) Made with Ionic Polymer Metal Composites (IPMCs)”, **Bioinspiration and Biomimetics, vol. 6,046004, pp. 1-11,** (2011), Institute of Physics (IOP) Publishing Ltd., London, UK, (2011)

213 Mohsen Shahinpoor, “Surgical Correction of Hyperopia, Myopia and Presbyopia Review of Recent Ophthalmological Patents”, **“Recent Patents on Biomedical Engineering Journal”**, volume 4, pp. 185-195, (2011), Bentham Science Publishers Ltd., Oak Park, IL 60301-0446, USA, (2011)

212 S.D. Dvorak and M. Shahinpoor, “A New Membrane Electrode Assembly for Low-Temperature PEM Fuel Cells Having a Nanocomposite Catalyst Layer,” **Electrochemical Society (ECS) Transactions**, vol. 30, No.1, pp. 77- 82, (2011)

211 Y. Bahramzadeh and M. Shahinpoor, “Dynamic Curvature Sensing Based On Ionic Polymer-Metal Composite (IPMC) Sensors”, **Smart Materials and Structures Journal,** vol. 20, no. 9, 094011 (7pp), September (2011)

210 R. Glaser, V. Caccese and M. Shahinpoor, “Development of Magnetorheological Fluid Composites with Rigidification Characteristics”, **Smart Materials and Structures Journal**, vol. 20, no.4, 045018 (16pp), pp. 1-16, (2011)

209 Mohsen Shahinpoor, “Biomimetic Nananosensors and Nanoactuators”, in **Biomimetics and Bioinspired Nanomaterials,** Editor: Professor Challa S.S. R. Kumar, John Wiley and Sons Publishers, Wiley-VCH Verlag, GmnH & Co. KGaA, Boschstrase 12, Weinheim, Germany, vol. 7, Chapter 8, pp. 2830301, (2010)

208 Mohsen Shahinpoor, “A Review of Patents on Implantable Heart-Compression/Assist Devices and Systems”, in **Recent Patents on Biomedical Engineering Journal”**, volume 3, pp. 54-71, (2010), Bentham Science Publishers Ltd., Oak Park, IL 60301-0446, USA, (2010)

207 Alireza Ghaffariyeh, Mohsen Shahinpoor, David Soltanpour and Nazafarin Honarpi-sheh, “Novel Theory for Treatment of Presbyopia: Rejuvenation of Zonular Fibers by Capsular Anterior Annular Peripheral Shrinkage (CAPS)”, **IR Journal of Medical Hypotheses and Ideas**, Vol. 4, No. 12, pp. 1-4, (2010)

206 Mohsen Shahinpoor, “Implantable Heart-Assist and Compression Devices Employing an Active Network of Electrically-Controllable Ionic Polymer-Metal Nanocomposites”, in **“Biomedical Applications of Electroactive Polymer Actuators”,** Editors: Federico Carpi and Elisabeth Smela, John Wiley and Sons Publishers, West Sussex, United Kingdom, Chapter 7, pp. 37-59 (2009)

205 Mohsen Shahinpoor, “Ionic Polymeric Conductor Nano Composites (IPCMCs) As Distributed Nanosensors, Nanoactuators and Artificial Muscles”, **Journal of Bioinspiration and Biomimetics**, Institute of Physics, Bioinsp. Biomim. **3** (2008) 035003 (8pp) (2008-2009).

204 Ron Lumia and Mohsen Shahinpoor, “IPMC Microgripper Research and Development”, **Journal of Physics CS**, Institute of Physics, Journal of Physics: Conference Series **127** (2008) 012002 (2008-2009)

203 Mohsen Shahinpoor, “Recent Advances in Ionic Polymer Metal Nanocomposites As Distributed Biomimetic Nanosensors, Nanoactuators and Artificial Muscles”, **J. of Physics CS**, Institute of Physics, Journal of Physics: Conference Series **127** pp.20-28, (2008-2009)

202 Mohsen Shahinpoor, “Ionic Polymeric Conductor Nano Composites (IPCMCs) As Distributed Nanosensors and Nanoactuators”, **Advances in Science and Technology J.,** Vol. 54, pp. 70-81, Trans Tech Publication, Switzerland**,** (2008)

201 Ujwal Deole, Ron Lumia, Mohsen Shahinpoor and Michael Bermudez, **“**Design and Test of IPMC Artificial MuscleMicrogripper“, **J. Micro-Nano Mechatronics**, Springer Berlin / Heidelberg, DOI 10.1007/s12213-008-0004-z, June (2008)

200 M. Shahinpoor and H.J. Schneider, “Overview of Liquid Crystal Elastomers, Magnetic Shape Memory Materials, Fullerenes, Carbon Nanotubes, Non-Ionic Smart Polymers and Electrorheological Fluids As Other Intelligent and Multi-Functional Materials”, In “**Intelligent Materials”,** pp. 499-513, published byRoyal Society of Chemistry (RSC) Publishers, Thomas Graham House, Science Park, Milton Road Cambridge CB4 0WF, Great Britain,1st. edition, (2008)

199 K.J. Kim, G. Lloyd and M. Shahinpoor, “Metal Hydride As Intelligent Materials and Artificial Muscles”, In “**Intelligent Materials”,** pp. 387-404, published byRoyal Society of Chemistry (RSC) Publishers, Thomas Graham House, Science Park, Milton Road Cambridge CB4 0WF, Great Britain,1st. edition, (2008)

198 M. Shahinpoor, “Ionic Polymer Metal Nanocomposites as Intelligent Materials and Artificial Muscles”, In “**Intelligent Materials”,** pp. 125-144, published byRoyal Society of Chemistry (RSC) Publishers, Thomas Graham House, Science Park, Milton Road Cambridge CB4 0WF, Great Britain,1st. edition, (2008)

197 Ethan A. Kottke, L. D. Partridge, Mohsen Shahinpoor,” Bio-Potential Activation of Artificial Muscles”, ***Journal of Intelligent Material Systems and Structures,*** vol. 18, no. 2, pp.103-109, (2007)

196 M. Shahinpoor and K. J. Kim, “Effects of Counter-ions on the Performance of Ionic Polymer-Metal Composite Artificial Muscles”,***Biomacromolecules*,** accepted for publication (to appear 2008)

195 K. Choi, K. J. Kim, D. Kim, C. Manford, S. Heo and Mohsen Shahinpoor, “

 Performance Characteristics of Electro-Chemically Driven Polyacrylonitrile Fiber Bundle Actuators”, ***Journal of Intelligent Material Systems and Structures,*** Vol. 17, No. 7, pp. 563-576, July, (2006)

194 M. Shahinpoor,”Soft Plastic Robots and Artificial Muscles”, ***International Journal of Advanced Robotic Systems*** 2 (2), pp. 161-174, (2005)

193 M. Shahinpoor,”Smart Ionic Polymer Conductor Composite Materials as Multifunctional Distributed Nanosensors, Nanoactuators and Artificial Muscles”, ***American Society of Mechanical Engineers, Materials Division (Publication)*** *MD* 100 MD, pp. 485-489, (2005)

192 M. Shahinpoor and K. J. Kim, “Ionic Polymer-Metal Composites – IV. Industrial and Medical Applications”, (Review Paper), ***Smart Materials and Structures*** ***Int. J***., Smart Mater. Struct. Vol. 14, No. 1, pp. 197-214, (2004).

191 K. Firoozbakhsh, M. S. Moneim, I.S. Yi, Y. Umeda, D. Theele, and M. Shahinpoor, “Smart Intramedullary Rod for Correction of Pediatric Bone Deformity: A Preliminary Study”, **Journal of Clinical Orthopaedics and Related Research**, volume 424, pp. 194-201, July (2004)

190 M. Shahinpoor and K. J. Kim, “Ionic Polymer-Metal Composites – III. Modeling and Simulation as Biomimetic Sensors, Actuators, Transducers and Artificial Muscles” (Review Paper), ***Smart Materials and Structures*** ***Int. J***., vol 13, No. 4, pp. 1362-1388, (2004)

189 M. Shahinpoor, ”Artificial Muscles”, Chapter in ***Encyclopedia of Biomaterials and Biomedical Engineering***, edited by G. Wnek and G. Bowlin, **Marcel Dekker Publishers,**  pp. 43-52, New York, NY, (2004)

188 M. Shahinpoor, “Electroactive Ion Containing Polymers”, Chapter in ***Hand Book of Smart Systems***, Institute of Physics (IOP) Publication, London, England, (2004)

187 M. Shahinpoor and A. Guran, ”Ionic Polymer-Conductor Composites (IPCC) as Biomimetric Sensors, Actuators and Artificial Muscles, **Selected Topics in Structures and Mechatronics Systems**, Editors: A. Belyaev and A. Guran, pp. 417-436, World Scientific Publishers, London, (2003)

186 M. Shahinpoor, “ Ionic Polymer-Conductor Composites As Biomimetic Sensors, Robotic Actuators and Artificial Muscles-A Review”, **Electrochimica Acta**, Vol. 48, No. 14-16, pp. 2343-2353, (2003)

185 G.M. Lloyd, K/J/ Kim, A. Razani and M. Shahinpoor, “Investigation of A Solar-Thermal Bio-Mimetic Metal Hydride Actuator”, **ASME Journal of Solar Energy Engineering**, Vol. 125, pp. 95-100, February (2003)

184 K. J. Kim and M. Shahinpoor, “Ionic Polymer-Metal Composites – II. Manufacturing Techniques”, ***Smart Materials and Structures*** *(SMS)*, Institute of Physics Publication, Vol. 12, No. 1, pp. 65-79, (2003)

183 M. Shahinpoor, K. J. Kim, and D. Leo, “Ionic Polymer-Metal Composites as Multifunctional Materials”, ***Polymer Composites***, Volume 24, No. 1, pp. 24-33, (2003)

182 K. J. Kim and M. Shahinpoor,, “Effective Diffusivity of Nanoscale Ion-Water Clusters within Ion-Exchange Membranes Determined by a Novel Mechano-Electrical Technique”, ***International Journal of Hydrogen Energy***, vol.28, No. 1, pp. 99-104, (2003)

181 M. Shahinpoor, “Mechanoelectrical Phenomena in Ionic Polymers”, ***Journal of Mathematics and Mechanics of Solids***, Special issue in honor of Professor Millard F. Beatty, vol. 8, No. 3, pp. 181-188, June (2003)

180 J. Tyson, T. Schmidt, M. Shahinpoor and K. Galanulis, “Biomechanics Deformation and Strain Measurements with 3D Image Correlation Photogrammetry”, **Journal of Experimental Techniques**, Society for Experimental Mechanics, vol. 27, no. 4, pp. 32-46, (2003)

179 M. Shahinpoor and K. J. Kim, “Mass Transfer Induced Hydraulic Actuation in Ionic Polymer-Metal Composites”, ***Journal of Intelligent Materials Systems and Structures*** *(JIMSS),* Vol. 13, No. 6, pp. 369-376 (2002)

178 M. Shahinpoor and K. J. Kim, “ Experimental Study of Ionic Polymer-Metal Composites in Various Cation Forms: Actuator Behavior”, **Science and Engineering of Composite Materials, Volume** 10, No. 6, pp. 423-436, (2002)

177 Moheb S. Moneim, Keikhosrow Firoozbakhsh, Abdol-Azim Mustapha, Kenna

Larsen and Mohsen Shahinpoor, “Flexor Tendon Repair Using Shape Memory Alloy Suture”, ***J. Clinical Orthopaedics and Related Research,*** vol. 402, pp. 251-259, September (2002)

176 K. J. Kim and M. Shahinpoor, “Application of Polyelectrolytes in Ionic Polymeric Sensors, Actuators, and Artificial Muscles”, Review Chapter in***Handbook of Polyelectrolytes and their Applications****,* edited by S. K. Tripathy, J. Kumar and H. S. Nalwa, vol. 3; Applications of Polyelectrolytes and Theoretical Models, **American Scientific Publishers**, Stevenson Ranch, California, USA (2002)

175 K. J. Kim and M. Shahinpoor, “A Novel Method of Manufacturing Three-Dimensional Ionic Polymer-Metal Composites (IPMC's) Biomimetic Sensors, Actuators and Artificial Muscle”, ***Polymer***, Vol. 43/3, pp.797-802 (2002)

174 M. Shahinpoor and K. J. Kim, “Novel Ionic Polymer-Metal Composites Equipped with Physically-Loaded Particulate Electrode as Biomimetic Sensors, Actuators and Artificial Muscles”, ***Actuators and Sensors A, Physical, 96 (2/3)*** A, 3163, pp. 125-132, (2002)

173 M. Shahinpoor and K. J. Kim, “A Solid-State Soft Actuator Exhibiting Large Electromechanical Effect”, ***Applied Physics Letters*** *(APL)*, vol. 80, Number 18, pp. 3445-3447, May (2002)

172 M. Shahinpoor and K. J. Kim, “Ionic Polymer-Metal Composites – I. Fundamentals”, (Review Paper), ***Smart Materials and Structures*** ***Int. J***., Vol. 10, No. 4, pp. 819-833 (2001)

171 A.R. Motamedi., Blevins, F.T., Willis, M.C. , McNally, T.P., Shahinpoor, M., ”Biomechanics of the Coracoclavicular Ligament Complex and Augmentations Used in Its Repair and Reconstruction”, ***AM J. SPORTS MEDICINE*** , vol. 28, No.3, pp. 380-384, (2000)

170 H. B. Schreyer, N. Gebhart, K. J. Kim, and M. Shahinpoor, “Electric Activation of Artificial Muscles Containing Polyacrylonitrile Gel Fibers”, ***Biomacromolecules***, Vol. 1, No. 4, pp. 642-647, (2000)

169 M. Shahinpoor, "Ion-Exchange Membrane-Metal Composite As Biomimetic Sensors and Actuators", Book Chapter, Chapter 12, in ***Polymer Sensors and Actuators***, Edited by Y. Osada and D. De Rossi, ***Springer-Verlag-Heidelberg***, pp.325-359, (2000)

168 M. Shahinpoor and K. J. Kim, “The Effect of Surface-Electrode Resistance on the Performance of Ionic Polymer-Metal Composite (IPMC) Artificial Muscles”, ***Smart Materials and Structures Int. J.***, Vol. 9, No. 4, pp. 543-551, (2000)

167 P. G. de Gennes (Nobel Laureate, 1991 in Physics), K. Okumura, M. Shahinpoor, and K. J. Kim, “Mechanoelectric Effects in Ionic Gels”, ***Europhysics Letters***, Vol. 50, No. 4, pp. 513-518, (2000)

166 M. Shahinpoor, "Ionic Polymer Metal Composite As Biomimetic Sensors and Actuators", in Volume 44, Book No. 2 of ***Evolving and Revolutionary Technologies for the New Millennium***, Edited by Leslie J. Cohen, Jerome L. Bauer and William E. Davis Published by SAMPE, pp.1950-1960, Covina, California, USA(1999)

165 M. Shahinpoor, Y. Bar-Cohen, J. Simpson and J. Smith, "Ionic Polymer-Metal Composites (IPMC's) As Biomimetic Sensors and Actuators", Book Chapter 3, in Field- Responsive Polymers, **American Chemical Society Publication**, ACS-FRP, ACS Symposium Series 726, Edited by I.M. Khan and J. S. Harrison, ***Oxford University Press,*** pp. 25-50, (1999)

164 M. Shahinpoor and J. Lantz, "Life Cycle Analysis and Robotic Recycling of Fluorescent Lamps", ***Int. J. Environ. Conscious Design & Manufacturing***, Vol. 7, No. 2, pp. 25-46, (1998)

163 M. Shahinpoor, Y. Bar-Cohen, J. Simpson and J. Smith, " Ionic Polymer-Metal Composites (IPMCs) As Biomimetic Sensors, Actuators and Artificial Muscles-A Review", ***Smart Materials & Structures Int. Journal***, vol. 7, pp. R15-R30, (1998)

162 K. J. Kim, M. Shahinpoor and R. Razani, "Solid Polymer Fuel Cells for the Next Century", ***Int. J. Environ. Conscious Design & Manufacturing***, Vol. 7, No. 3, pp. 17- 46, (1998)

161 M. Shahinpoor, M., "Active Polyelectrolyte Gels As Electrically-Controllable Artificial Muscles and Intelligent Network Structure", ***Book Chapter in Structronic Systems, Part II***, edited by: H.S.Tzou, A. Guran, U. Gabbert, J. Tani and E. Breitbach, ***World Scientific Publishers***, London, pp. 31-85, (1998)

160 Shahinpoor, M.," Intelligent Civil Engineering Materials and Structures Revisited", ***Intelligent Civil Engineering Materials & Structures***, edited by F. Ansari, A.K. Maji and Christopher Leung, Engineering Mechanics Division/ASCE, (1997)

159 E. Chen and M. Shahinpoor, “Dynamic Analysis and Experimental Investigation of The Free-to-Contact Motion For A Flexible Link Manipulator”, ***Iranian. Journal of Science & Technolog***y, vol. 21, no. 3, Transaction B, (1997)

158 G. Wang and M. Shahinpoor, ” Design, Prototyping and Computer Simulation of A Novel Large Bending Actuator Made with A Shape Memory Alloy Contractile Wire”, ***Smart Materials and Structures Int. Journal***, vol. 6, no. 2, pp. 214-221, (1997)

157 G. Wang and M. Shahinpoor, “ A New Design for A Rotatory Joint Actuator Made with Shape Memory Alloy Contractile Wire”, ***Int. J. Intelligent Materials Systems & Structures***, vol. 8, no. 3, pp. 191-279, March (1997)

156 G. Biswas, H. Haftbaradaran, K. Kawamura, R. Dhingra, D. Hunkeler, J. Lantz, M. Shahinpoor, and T. Quinn, "An Environmentally Conscious Decision Support System Based on a Streamlined LCA and a Cost Residual Risk Evaluation : Fluorescent Light Bulb Case Study", ***Int. J. Environmentally Conscious Design & Manufacturing***, Vol. 6, No. 3, pp. 9-24, (1997)

155 M. Shahinpoor, "Active Polyelectrolyte Gels as Electrically-Controllable Artificial Muscles and Intelligent Network Structures", ***Book Chapter, in Active Structures, Devices and Systems***, edited by H.S. Tzou, G.L. Anderson and M.C. Natori, ***World Science Publishing***, Lexington, Ky., (1997)

154 Shahinpoor, M. and Mojarrad, M., ”Ion-Exchange Membrane-Metal Composite Artificial Muscle Actuator Load Characterization and Modeling”, ***Smart Materials Technologies***, SPIE Publication No. vol. 3040, pp: 294-301, (1997)

153 Salehpoor, K., Shahinpoor, M. and Mojarrad, M.,” Some Experimental Results On The Dynamic Performance of PAN Muscles”, ***Smart Materials Technologies***, SPIE Publication No. vol. 3040, pp. 169-173, (1997)

152 Y. Bar-Cohen, T. Xue, B. Joffe, S.S. Lih, M. Shahinpoor, J. Simpson, J. Smith and P. Willis, “Electroactive Polymer (EAP) Low mass Muscle Actuators”, ***Smart Structures & Integrated Systems***, SPIE Publication., Vo. 3041, pp. 697-701, (1997)

151 M. Shahinpoor, M. Mojarrad and K. Salehpoor, “Electrically Induced Large Amplitude Vibration and Resonance Characteristics of Ionic Polymeric Membrane-Metal Composites Artificial Muscles”, ***Smart Structures & Integrated Systems***, SPIE Publication, Vol. 3041, pp. 829-838, (1997)

150 Wang, G. and Shahinpoor, M., ”Design for Shape Memory Alloy Rotatory Joint Actuators Using Shape memory Effect and Pseudoelastic Effect”, ***Smart Materials Technologies***, SPIE Publication, vol. 3040, pp. 23-30, (1997)

149 Shahinpoor, M.," Novel Design of An Agile Dynamic Mask for Layer-Additive Rapid Prototyping", in ***Advanced Manufacturing Methods, ASME-SNL-UNM-ERI Publication***, ERI Press, (1997)

148 Salehpoor, K., Shahinpoor, M. and Mojarrad, M., ”Linear and Platform Type Robotic Actuators Made From Ion-Exchange Membrane-Metal Composites”, ***Smart Materials Technologies***, SPIE Publication No. vol. 3040, pp.192-198, (1997)

147 Shahinpoor, M. and Mojarrad, M.,” Ion-Exchange-Metal Composite Artificial Muscle Actuator Load Characterization and Modeling”, ***Smart Materials Technologies***, SPIE Publication No. vol. 3040, pp. 294-301, (1997)

146 J. B. Weinrach and M. Shahinpoor, “Environmentally Conscious Design & Manufacturing : New Research Sponsored by National Science Foundation”, ***Int. J. Env. Consc. Design & Manufacturing***, vol. 5, No.1, pp. 19-32, (1996)

145 M. Shahinpoor and Jeffrey Lantz, “An Environmentally Conscious Robotically Operated Fluorescent Lamp Recycling Plant”, ***Int. J. Env. Consc. Design & Manufacturing***, vol. 5, No.2, pp. 37-40, (1996)

144 M. Shahinpoor, “ Ionic Polymeric Gels As Artificial Muscles For Robotic and Medical Applications“, ***Int. Journal of Science & Technology***, vol. 20, no. 1, Transaction B, pp. 89-136, (1996)

143 M. Shahinpoor, “Selected Abstracts from the 4th. International Conference on Environmentally Conscious Design & Manufacturing", ***Int. Journal of Environmentally Conscious Design & Manufacturing,*** vol. 5, no. 2, pp. 53-75, (1996)

142 M. Shahinpoor and M.S. Thompson, "The Venus Flytrap as A Model for Biomimetic Material with Built-In Sensors and Actuators", ***J. Materials Science & Engineering***, vol.C2, pp. 229-233, (1995)

141 M. Shahinpoor, "Micro-Electro-Mechanics of Ionic Polymeric Gels As Electrically-Controllable Artificial Muscles", ***Int. J. Intelligent Material Systems***, vol. 6, no. 3, pp. 307-314, (1995)

140 M. Shahinpoor," Industrial Robot Mathematics: Part III-Dynamics & Control", ***J. Industrial Mathematics***, vol. 44, part II, pp. 53-62, (1995)

139 M. Shahinpoor, and G. Wang, "Electro-Thermo-Mechanics of SMA Fiber Bundles Embedded in An Elastic Medium", ***Active Materials and Smart Structures***, Edited by G.L. Anderson and Dimitris C. Lagoudas, SPIE Publication, vol. 2427, pp. 272-382, (1995)

138 A. Razani, S. Sohrabpour and M. Shahinpoor, “Thermal Modeling of Robotic Handling of Hot Objects-II", ***Iraniann Journal of Science & Technology***, vol.18, no.2, pp.161- 172 (1994)

137 M. Shahinpoor and B.C. Chiou, “Dynamic Stability of A Force-Controlled Elastic Robot Manipulator", ***Int. J. Sci. & Tech.,*** vol. 1, no.1, pp.2-10, (1994)

136 M. Shahinpoor, and H. Pang, "Inverse Dynamics of A Parallel Manipulator", ***Journal of Robotic Systems***, vol. 11, no. 8, pp. 693-702, (1994)

135 M. Shahinpoor, "Continuum Electromechanics of Ionic Polymeric Gels As Artificial Muscles for Robotic Applications", ***Smart Materials & Structures Int. J***., vol.3, pp. 367-372, (1994)

134 M. Shahinpoor, “Micro-Electro-Mechanics of Ionic Polymeric Gels as Electrically Controlled Synthetic Muscles", ***Biomedical Engineering Recent Advances***, Editor: J. Vossoughi, University of District of Columbia Press, Washington, D.C., April 1994, vol.1, pp.756-759, (1994)

133 M. Shahinpoor and Guoping Wang, “Electro-Thermo-Mechanics of SMA Fiber Bundles Embedded In An Elastic Medium”, ***Recent Advances in Engineering Science, Soc. Engng. Sci. Publication,*** D. H. Allen and D. C. Lagoudas, Editors, pp. 408-412, (1994)

132 M. Shahinpoor, "Deployable Fractal Mechanisms As Smart Structures", ***ASME-AMD- vol. 167, Recent Development in Stability, Vibration, and Control of Structural Systems***, edited by A. Guran, vol. AMD-VOL. 167, pp. 119-126, June (1993)

131 M. Shahinpoor, and H. Pang, "Analysis of Static Equilibrium of a Parallel Manipulator", ***Robotica Int. Journal,*** vol. 11, pp. 11-21, (1993)

130 M. Shahinpoor, “An Introduction to Smart Fractal Structures and Mechanisms", ***ASME Publication DE-Vol. 58, Intelligent Structures, Materials, and Vibrations***, edited by M. Shahinpoor and H.S. Tzou, Vol. DE-58, pp.67-74, (1993)

129 A. Meghdari, M. Jafarian, M. Mojarrad and M. Shahinpoor, “Exploring Artificial Muscles as Actuators for Artificial Hands", ***ASME Publication DE-Vol. 58, Intelligent Structures, Materials, and Vibrations***, edited by M. Shahinpoor and H.S. Tzou, Vol. DE-58, pp.21-26, (1993)

128 M. Shahinpoor, “Electro-Mechanics of Bending of Ionic Polymeric Gels as Synthetic Muscles for Adaptive Structures", ***ASME Publication AD-Vol. 35, Adaptive Structures and Material Systems***, edited by G.P. Carman and E. Garcia, Vol. AD-35, pp.11-22, (1993)

127 M. Shahinpoor, "Novel Applications of Ionic Polymeric Gels as Smart Materials and Artificial Muscles", ***Interdisciplinary Research in Smart Materials***, US Army Research Office Publications, Edited by A. Crowson & J.A. Bailey, pp.78-89, (1993)

126 M. Shahinpoor," Kinematics of A Parallel-Serial (Hybrid) Robot Manipulators", ***J. Robotics Systems***, vol. 9, n0. 1, pp 55-62, January, (1992)

125 M. Shahinpoor, "Conceptual Design, Kinematics and Dynamics of Swimming Robotic Structures Using Ionic Polymeric Muscles", ***Int. J. Smart Materials & Structures,*** vol.1, no.1, pp.91-94, (1992)

124 D. Segalman, W. Witkowski, D. Adolf and M. Shahinpoor, "Theory of Electrically Controlled Polymeric Muscles as Active Materials in Adaptive Structures", ***Int. J. Smart Materials & Structures***, vol.1, no.1, pp.44-54 (1992)

123 J.H. Mullins, M. Shahinpoor, M. Jamshidi, S.K. Kassicieh and G.P. Starr, "Robotics and Manufacturing Education and Research-The New Mexico Initiative", ***J. Robotics & Computer-Integrated Manufacturing***, vol.9, no. 1, pp.15-25 (1992)

122 H. Zohoor and M. Shahinpoor," Dynamic Analysis of Peg-in-Hole Insertion In Manufacturing Automation", ***Journal of Manufacturing Systems***, vol. 10, no. 2, pp.99-108, (1991)

121 R.S. Hawke, J.R. Asay & M. Shahinpoor," Railgun Performance With A Two-Stage Light Gas Injector", ***IEEE Transaction of Magnetics***, vol. 6, no.1, (1991)

120 B.C. Chiou and M. Shahinpoor, “Dynamic Stability Analysis of A Two-Link Force- Controlled Flexible Manipulator", ***ASME J. Dyn. Systems Measurements & Control,*** vol.112, no.4, pp.661-667, (1990)

119 J.R. Asay, C.H. Konrad, C.A. Hall, M. Shahinpoor and R.H. Hickman," Continuous Measurements of In-Bore Projectile Velocity”, ***IEEE Transaction on Magnetics***, vol. 25, no. 1, pp.46-51, (1989)

118 R.S. Hawke, A.R. Susoeff, J.R. Asay, J. Balk, C.A. Hall, C. H. Konrad, M. McDonald, K. Schuler, G. Wellman, M. Shahinpoor and G. Sauve, "Starfire: Hypervelocity Rail Launchers For High Pressure Research,", ***IEEE Transactions on Magnetics***, vol.5, no.1, pp.223-227, (1989)

117 M. Shahinpoor and R.S. Hawke," Analytical Solutions to Dynamic Equations of Plasma Armature Railguns", ***IEEE Transactions on Magnetics***, vol.5, no.1, pp.508-513, (1989)

116 M. Shahinpoor, J.R. Asay, C.H. Konrad and C.H. Hall," Use of A Two-Stage Light-Gas Gun As An Injector For Electro-Magnetic Railguns", ***IEEE Transactions on Magnetics***, vol.5, no.1, pp.514-518, (1989)

115 M. Shahinpoor, “Industrial Robot Mathematics: Part II-Inverse Kinematics Solution***", J. Industrial Mathematics***, vol. 39, Part 2, pp.143-157, (1989)

114 A. Razani, M. Shahinpoor and Y. Chang, “Thermal Modeling of Robotic Arm and Hand Moving in a Nonhomogeneous Temperature Field", ***Heat Transfer Engineering J.,*** vol.10, no. 3, pp. 43-53, (1989)

113 B.C. Chiou and M. Shahinpoor, "The Effect of Joint Stiffness on The Dynamic Stability of A One-Link Force-Controlled Manipulator", ***Robotica Int. J.,*** vol.7, pp. 339-342, (1989)

112 M. Shahinpoor, "Dynamics", in ***Encyclopedia of Robotics***, John Wiley & Sons, editors : R.C. Dorf & S.Y. Nof, vol.1, pp.329-347, (1988)

111 B.C. Chiou and M. Shahinpoor, “Dynamic Stability Analysis of a One Link Force- Controlled Flexible Manipulator", ***J. Robotics Systems***, vol. 5, no. 5, pp. 447-452, (1988)

110 A. Meghdari and M. Shahinpoor, “Three-Dimensional Flexural-Joint Stiffness Analysis of Flexible Robots", ***Robotica Int. J***., vol. 6, pp. 203-212, (1988)

109 M. Shahinpoor, "Industrial Robots Mathematics: Part I-Introductory Kinematics", ***J. Industrial Math***., vol. 38, part 1, pp. 95-106, (1988)

108 M. Shahinpoor, J.R. Asay, W.R. Dixon and R.S. Hawke, "Effects of Barrel Joints on Hypervelocity Projectiles", ***Shock Waves In Condensed Matter***, Ed: S.C. Schmidt and N.C. Holmes, pp.757-760, Elsevier Science Publishers, B.V.,(1988)

107 M. Shahinpoor, "Modern Developments in Granular Materials", ***The Engng Sci. Perspective***, vol. 6, pp. 32-42, (1987)

106 Y.T. Kim, M. Jamshidi and M. Shahinpoor, "Near-Optimum Control of a Robot Manipulator", ***Int. J. Robotics & Automation***, Vol. 2, No. 1, pp. 44-48, (1987)

105 M. Shahinpoor, "Mathematics of Industrial Robots", ***Iranian. J. Sci. & Tech***., Vol. 7, No. 1, pp. 22-48, (1987)

104 M. Shahinpoor and A. Meghdari, "Three-Dimensional Flexural-Joint Stiffness Analysis of Flexible Manipulator Arms", ***Robotica Int. J.,*** Vol. 5, No. 4, pp.230-239, (1987)

103 A. Meghdari and M. Shahinpoor, "Elastic Deformation Characteristics of a PUMA 560 Robot Manipulator", ***Int. J. Robotics and Automation***, Vol. 2, No. 1, pp. 13-17, (1987)

102 M. Shahinpoor and A. Meghdari, “"Combined Flexural-Joint Stiffness Matrix and the Elastic Deformation of a Servo-Controlled Two-Link Robot Manipulator", ***Robotica Int. J.***, Vol. 4, No. 4, pp. 237-242, (1986)

101 H. Seraji, M. Jamshidi, M. Shahinpoor and Y.T. Kim, "Linear Multi-variable Control of Nonlinear Two-Link Robots", ***J. Robotic Systems***, Vol. 3, No. 4, pp. 349-365, (1986)

100 M. Shahinpoor and M. Jamshidi, "An Overview of Robot Engineering Education at the University of New Mexico", **Proceedings: Int. Symp. Robotics, Modeling, Education and Control**, Albuquerque, New Mexico, November (1986), also in ***"Recent Trends in Robotics: Modeling, Control and Education***," North-Holland Publishing Corp., pp. 351-354, (1986)

99 M. Shahinpoor, H. A. Kalhor and M. Jamshidi, "On Magnetically Actuated Robotic Tensor Arms", **Proceedings Int. Symp. Robotics Modeling, Education and Control**, Albuquerque, New Mexico, November (1986), also in "***Recent Trends in Robotics: Modeling, Control and Education,***" North-Holland Publishing Corp., pp. 517-522, (1986)

98 M. Shahinpoor and M.A.S. Mohamed, "On the Effect of Asperity-Pair Elastic Joints on Friction Resistance", ***Wear***, vol. 112, no.2, pp.89-101, (1986)

97 M. Shahinpoor, "The Exact Inverse Kinematics Solution for Rhino XR-2 Robot Manipulators", ***Robotics-Age: The Journal of Intelligent Machines***, Vol. 7, No. 8, pp. 6-14, (1985)

96 M. Shahinpoor and N.E. Singer, "A New Robotics Instructional Laboratory", ***Tech. Horiz. Educ. J.***, Vol. 13, No. 1, pp. 54-57, August, (1985)

95 M. Shahinpoor and M. Caporali, "Design and Construction of a Five-Fingered Robot Hand", ***Robotics Age,*** vol. 6, no. 2, pp. l4-20, (l984)

94 M. Shahinpoor, "Frequency Distribution of Contact Angels in Random Packing of Granular Materials", ***Particulate Science and Technology Int. J***., vol. 2, no. 4, pp. 327-338, (l984)

93 M. Shahinpoor, "Error Estimation in Stereological Determination of Particle Size Distribution", ***Acta Stereological,*** vol. 3, no. l, pp. 27-32, (l984)

92 M. Shahinpoor and S.Z. Abdel-Rahman, "Generalized Algorithm for Computing the 4-3-4 N-Axis Robotic Trajectory", ***J. Robotics Systems,*** vol. l, no. 4, pp. 395-420, (l984)

91 M. Shahinpoor, "New Constitutive Equations for the Rapid Flow of Granular Materials - II", ***J. Non-Newtonian Fluid Mech.,*** vol. l2, no. l, pp. 3l-38, (l983)

90 G. Ahmadi and M. Shahinpoor, "Towards a Turbulent Modeling of Rapid Flow of Granular Materials", ***Powder Tech. J.,*** vol. 35, pp. 24l-248, (l983)

89 M. Shahinpoor, "Frequency Distribution of Voids in Randomly Packed Monogranular Layers", ***Mechanics of Granular Materials; New Models and Constitutive Relations,*** Edited by J.T. Jenkins and M. Satake, Elsevier, Studies in Applied Mechanics 7, pp. l73-l86, (l983)

88 M. Shahinpoor and J.T. Jenkins, "Macroscopic Phase Transitions in Two-Dimensional Granular Materials", ***Mechanics of Granular Materials; New Models and Constitutive Relations,*** Edited by J.T. Jenkins and M. Satake, Elsevier, Studies in Applied Mechanics, 7, pp. 339-346, (l983)

87 M. Shahinpoor and G. Ahmadi, "A Kinetic Theory for the Rapid Flow of Rough Identical Spherical Particles and the Evolution of Fluctuations", ***Adv. Mech. Flow Granular Mats***., Trans. Tech. Pub., vol. 2, pp. 64l-667, (l983)

86 G. Ahmadi and M. Shahinpoor, "A Note on Collision Operators in Rapid Granular Flows of Rough Inelastic Particles", ***Powder Tech. J.***, vol. 35, pp. ll9-l22, (l983)

85 M. Shahinpoor, "Some Recent Results on the Behavior of Granular Materials", ***Adv. Mech. Flow Granular Mats.***, Trans-Tech. Publications, vol. l, pp. 297-330, (l983)

84 M. Shahinpoor and G. Ahmadi, "A Continuum Theory for Fully Developed Saturated Porous Elastic Materials", ***Int. J. Non-Linear Mech.,*** vol. l8, pp. 223-234, (l983)

83 M. Shahinpoor, "Bond Graph Dynamic Modeling of Robotic Manipulators,", ***Recent Developments in Applied Mathematics***", edited by F.F. Ling and I.G. Tadjbakhsh, Rensselaer Press, Troy, NY, pp. l76-l84, (l983)

82 G. Ahmadi and M. Shahinpoor, "A Kinetic Theory for Rapid Flow of Granular Materials", ***Int. J. Non-Linear Mech.,*** vol. l9, no. 2, pp. l77-l86, (l983)

81 M. Shahinpoor, "A Model for Crystallization of Monomolecular Layers on Contracting Surfaces", ***J. Colloid and Interface Sci.,*** 85, l, pp. 227-234, (l982)

80 M. Shahinpoor, "Making Oil from Sand", ***Technology Review***, February-March, 85, 2, pp. 48-54, (l982)

79 M. Shahinpoor and S.P. Lin, "Rapid Couette Flow of Granular Materials", ***Acta Mechanica,*** vol. 42, pp. l83-l96, (l982)

78 M. Shahinpoor, "Some Tentative Representations for the Free Energy of Granular Materials", ***Industrial Math. J.,*** vol. 32, part l, pp. 54-63, (l982)

77 M. Shahinpoor, "Mathematical Modeling of the Future for Complex Systems", ***Math. Model. Int. J***., vol. 3, pp. l53-l60, (l982)

76 M. Shahinpoor and J.S.S. Siah, "On a Two-Dimensional Mean Flow of Granular Materials", ***Dev. Theo. Appl. Mech.,*** vol. XI, p. 299-505, SECTAM XI Publishing,(l982)

75 M. Shahinpoor and A. Shahrpass, "Frequency Distribution of Voids in Random Two-Dimensional Packing of Equal Spheres", ***Int. J. Bulk Solids Handling***, vol. 2, no. 4, North American Special, Part 2, pp. 825-837, (l982)

74 S. Trogdon and M. Shahinpoor, "Rapid Poisuille Flows of Granular Materials", ***Int. J. Bulk Solids Handling***, 2, 3, Part I, pp. 55l-553, (l982)

73 M. Shahinpoor, "Statistical-Mechanical Considerations on the Storing of Bulk Solids", ***Int. Bulk Solids Handling Journal,*** vol. l, no. l, pp. 3l-37, Feb., (l98l)

72 M. Shahinpoor, "Exact Bounds on Average Granular Pressures in a General Bin Model", ***Appl. Math. Modeling J***., vol. 5, no. 3, pp. l85-l98, (l98l)

71 M. Shahinpoor and D.J. Wells, "Engineering Diagnostics and Trouble-Shooting: A New Use for Fuzzy Logic", ***ASME Publications, Failure Prevention and Reliability***, ed. F.C. Loo, pp. l67-l7l, (l98l)

70 M. Shahinpoor and J.S.S. Siah, "New Constitutive Equations for the Rapid Flow of Granular Materials", ***Int. J. Non-Newtonian Fluid Mech.,*** vol. 9, pp. l47-l56, (l98l)

69 M. Shahinpoor, "On Rapid Flow of Bulk Solids", ***Int. J. Bulk Solids Handling,*** vol. l, no. 3, pp: 487-500, (l98l)

68 M. Shahinpoor, "Nonlinear Mechanics for the Gravitational Equilibrium of Granular Materials", ***Int. J. Non-Linear Mech.,*** vol. l6, no. 3l4, pp. 303-309, (l98l)

67 M. Shahinpoor, "Statistical Mechanical Considerations on the Random Packing of Granular Materials", ***Powder Technology J.,*** vol. 25, no. 2, pp. l63-l76, (l980)

66 M. Shahinpoor and D. J. Wells, "Applications Possibilities for Fuzzy Failure Analysis and Diagnosis of Reactor Plant Components and Areas", ***Nucl. Engrg. and Design***, vol. 6l, pp. 93-l00, (l980)

65 M. Shahinpoor and R. Balakrishnan, "Large Amplitude Oscillations of Thick Hyperelastic Cylindrical Shells", ***Int. J. Non-Linear Mech.,*** vol. l3, pp. 295-30l, (l979)

64 M. Shahinpoor and G. Ahmadi, "Free Energy of Granular Materials in Static Equilibrium", ***J. Appl. Mech., Trans. ASME***, vol. 46, 4, 94, (l979)

63 M. Shahinpoor and R. Balakrishnan, "Large Amplitude Oscillations of Thick Hyperelastic Cylindrical Shells", ***Iranian. J. Sci. & Tech.***, vol. 7, no. 4, pp. 267-272, Pergamon Press, Oxford (l979)

62 M. Shahinpoor, "On a Class of Quasi-Equilibrated Finite Dynamic Deformation of Solid Circular Cylinders", ***Pakistan J. Sci. & Indust. Research***, vol. 23, nos. l-2, pp. 23-30, (l979)

61 M. Shahinpoor, "Governing Equations for Simple Continuum Feathers", ***Arch. Mech. Stos.***, vol. 30, no. l, pp. ll3-ll7, (l978)

60 R. Balakrishnan and M. Shahinpoor, "Finite Amplitude Oscillations of a Hyperelastic Spherical Cavity", ***Int. J. Non-Linear Mech.,*** vol. l3, no. 3, pp. l7l-l76, (l978)

59 R. Balakrishnan and M. Shahinpoor, "Finite Amplitude Oscillations of a Thin Hyperelastic Spherical Shell", ***Iranian. J. Sci. & Tech.,*** vol. 7, no. l, pp. 25-29, Pergamon Press, Oxford (l978)

58 M. Shahinpoor and R. Balakrishnan, "Large Amplitude Oscillations of Thick Hyperelastic Spherical Shells", ***Iranian. J. Sci. & Tech.,*** vol. 7, no. 3, pp. l72-l77, Pergamon Press, Oxford (l978)

57 G. Ahmadi and M. Shahinpoor, "Decay of the Energy of a First Order Cosserat Fluid with Heat and Mass Transfer", ***Iranian. J. Sci. & Tech.,*** vol. 7, no. l, pp. 2l-24, Pergamon Press, Oxford (l978)

56 M. Shahinpoor, "The Role of Parametric Self-Excitation in DNA Self-Replication", ***J. Theo. Biol.,*** vol. 70, no. l, pp. l7-22, (l978)

55 M. Shahinpoor, "Further Comments on the Stress Tensor in Nematic Liquid Crystals", ***Rheol. Acta.,*** vol. l7, no. 2, pp. l08-l09, (l978)

54 M. Shahinpoor, I.G. Tadjbakhsh, and A. Razani, "Estimates on Seismic Amplification Factors of Reactor Components", ***Nucl. Engrg. & Design J.,*** 50, pp. 323-325, (l978)

53 M. Shahinpoor and G. Ahmadi, "A Note on the Free Energy of Granular Materials", ***Iranian J. Sci. & Tech.,*** vol. 7, no.3, pp. l69-l7l, (l978)

52 M. Shahinpoor, "Asymmetric Gas Thermodynamics", ***J. Mathematical Phys.,*** vol. l8, no. 5, pp. 858-86l, May, (l977)

51 M. Shahinpoor, "Exact Solution to Finite Amplitude Forced Oscillations of Curvilinearly Aeolotropic Thin Rubber Tubes", ***Iranian J. Sci. & Tech.,*** vol. 6, no. l, pp. 29- 37, Pergamon Press, Oxford (l977)

50 M. Shahinpoor, "A New Ferrohydrodynamics and Magnetic Viscosity of Ferromagnetic Colloids", ***Iranian J. Sci. & Tech.,*** vol. 6, no. 1, pp. 22-28, Pergamon Press, Oxford (l977)

49 M. Shahinpoor, "A Reformulation of Ericksen - Leslie Continuum Theory of Nematic Liquid Crystals", ***Iranian J. Sci. & Tech.,*** vol. 6, no. 2, pp. l03-l05, Pergamon Press, Oxford (l977)

48 M. Shahinpoor, "A Continuum Theory of Simple Feather Structures", ***Iranian J. Sci. & Tech.,*** vol. 6, no. 3, pp. l42-l48, Pergamon Press, Oxford (l977)

47 M. Shahinpoor, "Electro-Thermo-Mechanics of Liquid Micro Dielectrics", ***Iranian J. Sci. & Tech***., vol. 6, no. 3, pp. l33-l42, Pergamon Press, Oxford (l977)

46 M. Shahinpoor and G. Ahmadi, "Stability of Cosserat Fluid Motions-II, On the Nth Order Cosserat Fluid", ***Acta Mechanica J.,*** vol. 28, no. 2, pp. l53-l63, (l977)

45 M. Shahinpoor, "Finite Deformation for Some Slightly Compressible Materials", ***Iranian J. Sci. & Tech.,*** vol. 6, no. 4, pp. 205-2l0, Pergamon Press, Oxford (l977)

44 M. Shahinpoor, "A Mathematical Model of DNA Molecules", ***Iranian J. Sci. & Tech.,*** vol. 6, no. 4, pp. 2ll-2l7, Pergamon Press, Oxford (l977)

43 M. Shahinpoor, I.G. Tadjbakhsh, and G. Ahmadi, "On Seismic Response of Hills", ***Bull. Seism. Soc. Am.,*** vol. 67, no. 6, pp. l665-l666, (l977)

42 M. Shahinpoor, I.G. Tadjbakhsh and G. Ahmadi, "Seismic Response of Hills", ***Iranian J. Sci. & Tech.***, vol. 6, no. 4, pp. l99-203, Pergamon Press, Oxford (l977)

41 M. Shahinpoor and G. Ahmadi, "Universal Stability of Thermo-Cosserat Fluid Motions-II", Meccanica dei Fluidi ed. Idraulica, Instituto Lombardo, ***Rend. Sci.,*** vol. A, lll, pp. 24l-249, (l977)

40 M. Shahinpoor and I.G. Tadjbakhsh, "A Class of Controllable Wave Propagation in Finite Elasticity", ***Int. J. Non-Linear Mech.,*** vol. ll, no. 5, pp. 325-330, (l976)

39 M. Shahinpoor and G. Ahmadi, "On the Foundation of Cosserat Media with Rigid Polarizable Micro-Inclusions", ***Rec. Adv. Engrg. Sci.,*** vol. 6, pp. l35-l42, April, (l976)

38 H.A. Kalhor and M. Shahinpoor, "Diffraction of Plane Electromagnetic Waves from Arrays of Conducting Rectangular Cylinders", ***Proc. IEE***, vol. l23, no. 3, pp. 203-206, March, (l976)

37 M. Shahinpoor, "On the Stress Tensor in Nematic Liquid Crystals", ***Rheol. Acta. J.,*** vol. l5, no. 2, pp. 99-l03, (l976)

36 M. Shahinpoor, "On the Lehmann's Effect", ***Rheol. Acta. J.,*** vol. l5, no. 5, pp. 2l5-2l8, (l976)

35 M. Shahinpoor, "A Temperature-Color Formula for Cholesteric Liquid Crystals", ***Iranian J. Sci. & Tech.***, vol. 5, no. 3, pp. ll7-l24, Pergamon Press, Oxford, UK, (l976)

34 M. Shahinpoor, "Effect of Material Nonlinearity on the Acceleration Twist Waves in Liquid Crystals", ***Mol. Cryst. Liquid Cryst. J***., vol. 37, pp. l2l-l26, (l976)

33 M. Shahinpoor, "Hadamard Stability of Uniform Helical Structures", ***J. Struct. Mech.,*** vol. 5, no. l, pp. 33-43, (l976)

32 M. Shahinpoor, "A Non-Simple Heat Conducting Microfluid", ***Iranian J. Sci. & Tech.,*** vol. 5, no. 4, pp. l73-l78, Pergamon Press, Oxford (l976)

31 M. Shahinpoor, " Utilization of Underground Released Energy", ***Zentralstelle Fur Atomkernergie Do Kumentation, ZAED***, no. 8, p. 39, (l975)

30 M. Shahinpoor, "Plane Waves and Hadamard Stability in Generalized Thin Elastic Rods", ***Int. J. Solids & Structures,*** vol. ll, pp. 86l-870, (l975)

29 M. Shahinpoor, "Finite Twist Waves in Liquid Crystals", ***Quart. J. Mech. Appl. Math.,*** vol. XXVIII, pp. 244-253, (l975)

28 M. Shahinpoor, Comments on the Paper, "Alignment of Nematic Liquid Crystals", J. Chem. Phys., vol. 54, no. l2, 5027, (l97l), ***J. Chem. Phys.,*** vol. 63, no. 3, pp. l3l9-l320, (l975).

27 M. Shahinpoor and G. Ahmadi, "Relativistic Thermodynamics of Viscous Heat Conducting Fluids", ***Iranian J. Sci. & Tech.,*** vol. 3, no. 4, pp. 245-248, Pergamon Press, Oxford (l975)

26 M. Shahinpoor, "On the Continuum Theory of Liquid Crystals of the Nematic Type-I", ***Iranian J. Sci. & Tech.,*** vol. 4, no. 4, pp. l9l-l99, Pergamon Press, Oxford (l975)

25 M. Shahinpoor, "On the Continuum Theory of Liquid Crystals of the Nematic Type-II", ***Iranian J. Sci. & Tech.,*** vol. 4, no. 4, pp. l9l-l99, Pergamon Press, Oxford (l975)

24 G. Ahmadi and M. Shahinpoor, "Decay of the Kinetic Energy of a Dusty Gas", ***J. Math. Phys. Sci.***, vol. VIII, no. 6, pp. 297-402, (l974)

23 G. Ahmadi and M. Shahinpoor, "Universal Stability of a Dusty Gas", ***Australian Chem. Engrg. J.***, vol. 6, pp. 5-8, (l974)

22 M. Shahinpoor, "Exact Solution to Problem of Large Amplitude Oscillations of An Anisotropic Thin Rubber Tube", ***J. Acoust. Soc. Am.,*** vol. 56, no. 2, pp. 477-480, (l974)

21 M. Shahinpoor, "Plane Waves and Stability of Thin Elastic Circular Cylindrical Shells", ***Arch. Rational. Mech. & Analysis,*** vol. 54, no. 3, pp. 267-280, (l974)

20 G. Ahmadi and M. Shahinpoor, "Universal Stability of Magneto-Micropolar Fluid Motions", ***Int. J. Engrg. Sci.,*** vol. l2, pp. 657-663, (l974)

19 M. Shahinpoor and H. Kalhor, "A Dynamical Theory of Elastic Micro-Dielectric Polymers", ***Polym. Engrg. Sci. J.,*** vol. l4, no. 6, pp. 464-47l, (l974)

18 M. Shahinpoor and G. Ahmadi, "Universal Stability of Thermo-Cosserat Fluid Motions", ***Rend. (A), Meccanica dei Fluidi ed Idraulica, A,*** vol.(l08), pp: l-l2, (l974)

17 M. Shahinpoor, "Combined Radial-Axial Large Amplitude Oscillations of Hyperelastic Cylindrical Tubes", ***J. Math. Phys. Sci.,*** vol. VII, no. 2, pp. lll-l28, (l973)

16 M. Shahinpoor, "Nonhomogeneous Cylindrical Shell Embedded in an Elastic Foundation and Subjected to an Internal Pressure Wave", ***Iranian J. Sci. & Tech.,*** vol. 2, no. 4, pp. 257-279, (l973)

15 M. Shahinpoor and G. Ahmadi, "Decay of a Compressible Micro-Polar Fluid," ***Int. J. Engrg. Sci.***, vol. ll, no. 9, pp. 885-889, (l973)

14 M. Shahinpoor and G. Ahmadi, Uniqueness in Elastodynamics of Cosserat and Micropolar Media", ***Quart. Appl. Math.***, vol. XXXI, no. 2, pp. 257-26l, (l973)

13 M. Shahinpoor and G. Ahmadi, "Decay of the Kinetic Energy of a First Order Cosserat Fluid", ***Rend. Scienz (A), Meccanica dei Fluidi ed Idraulica A***, vol. l07, pp. 353-356, (l973)

12 M. Shahinpoor and G. Ahmadi, "Universal Stability of Magneto-Cosserat Fluid Motions", ***Rend. Scienz, Meccanica dei Fluidi ed Indraulica A***, vol. l07, pp. 43-359, (l973)

11 M. Shahinpoor, "Analysis of a Class of Quasi-Equilibrated Motions", ***Rend. Scienz (A),*** vol. l06, pp. l45-l57, (l972)

10 M. Shahinpoor, "Finite Deformation of Slightly Compressible Materials - On the Finite Screw Dislocation”, ***Int. J. Engrg. Sci.,*** vol. l0, no. 11, pp. 953-96l, (l972)

9 M. Shahinpoor, "Large Amplitude Oscillations of a Hollow Spherical Dielectric", ***Int. J. Non-Linear Mech.,*** vol. 7, no. 4, pp. 527-534, (l972)

8 M. Shahinpoor, "Dynamic Response of a Non-Homogeneous Rectangular Plate to a Moving Shock Wave", **Iranian J. Sci. & Tech**., vol. 2, no. 3, pp. l63-l87, (l972)

7 M. Farshad and M. Shahinpoor, "Beams on Bilinear Elastic Foundations", ***Int. J. Mech. Sci.***, vol. l4, pp. 44l-445, (l972)

6 M. Shahinpoor and G. Ahmadi, "Stability of Cosserat Fluid Motions", ***Arch. Ration. Mech. & Analy.,*** vol. 47, no. 3, pp. l88-l94, (l972)

5 M. Shahinpoor and J.L. Nowinski, "An Exact Solution to the Problem of Forced Large Amplitude Oscillations of a Thin Hyperelastic Tube", ***Int. J. Non-Linear Mech.,*** vol. 6, pp. l93-207, (l97l)

4 J.L. Nowinski and M. Shahinpoor, "Radial Oscillations of Thick-Walled Spherical Highly Stressed Nonhomogeneous Shell", ***J. Franklin Inst.***, vol. 29l, no. 4, pp. 293-304, (l97l)

3 M. Shahinpoor, "Radial Oscillations of a Thick-Walled Highly Stressed Hyperelastic Nonhomogeneous, Cylindrical Shell", ***Iranian. J. Sci. & Tech.,*** vol. l, no. l, pp. 35- 60, (l97l)

2 M. Shahinpoor, "Nonlinear Differential Equations Reducible to Linear Ones", ***Iranian J. Sci. & Tech.,*** vol. l, no. 2, pp. 99-ll2, (l97l)

1 J. L. Nowinski and M. Shahinpoor, "Stability of an Elastic Circular Tube of Arbitrary Wall-Thickness Subjected to an External Pressure", ***Int. J. Non-Linear Mech.,*** vol. 4, pp. l43- l58, (l969)

***12B-Refereed Book s and Edited Volumes:***

*(Listing the most recent ones first)*

52 M. Shahinpoor, editor: “**Fundamentals of Smart Materials**”, Royal Society of Chemistry Publishers, Dr. Robin Driscoll, MRSC, Commissioning Editor**,** Thomas Graham House, Science Park, Milton Road, Cambridge CB4 0WF, UK (2019)

51 M. Shahinpoor, “**Ionic Polymer Metal Composites (IPMCs): Smart Multi-Functional Materials and Artificial Muscles**”, **Volume II**, Royal Society of Chemistry Publishers, Dr. Cara Sutton, MRSC, Commissioning Editor**,** Thomas Graham House, Science Park, Milton Road, Cambridge CB4 0WF, UK (2016)

50 M. Shahinpoor, “**Ionic Polymer Metal Composites (IPMCs): Smart Multi-Functional Materials and Artificial Muscles**”, **Volume I**, Royal Society of Chemistry Publishers, Dr. Cara Sutton, MRSC, Commissioning Editor**,** Thomas Graham House, Science Park, Milton Road, Cambridge CB4 0WF, UK (2016)

1. M. Shahinpoor and I. Oh, editors: “**Selected papers from the 7th. International Conference on Biomimetics, Artificial Muscles and Nano-Bio (BAMN2013)”,** Jeju Island, South Korea, August 26-30, (2013), Smart Materials and Structures Int. Journal, vol. 23, Number 7, 070301, (2014)

48 M. Shahinpoor and S-Gheshmi, “**Robotic Surgery**: **with Smart Materials, Robotic Structures and Artificial Muscles”,** PAN Stanford Publishing**,** Pan Stanford Publishing Pte. Ltd., Penthouse Level, Suntec Tower 3, 8 Temasek Boulevard, Singapore 038988, June (2014)

47Hans-Jörg Schneider and M. Shahinpoor**,** Editors: **“Smart Materials” Book Series,** Royal Society of Chemistry Publishers, Dr. Leanne Marle MRSC, Commissioning Editor**, RSC Publishing, Royal Society of Chemistry**, Thomas Graham House, Science Park, Milton Road, Cambridge CB4 0WF, UK (2011)

***The first 39 volumes of this Scientific Series are:***

1-Shan Jiang and Steve Granick, “**Janus Particle Synthesis, Self-assembly and Applications”,** RSC-Smart Materials**, Royal Society of Chemistry, Cambridge, UK,** Series editors: Hans-Jörg Schneider and Mohsen Shahinpoor, (2012)

2-Carmen Alvarez-Lorenzo and Angel Concheiro, “**Smart Materials for Drug Delivery”, vol 1,** RSC-Smart Materials**, Royal Society of Chemistry, Cambridge, UK,** Series Editors: Hans-Jörg Schneider and Mohsen Shahinpoor, (2013)

3-Carmen Alvarez-Lorenzo and Angel Concheiro, “**Smart Materials for Drug Delivery”, vol 2,** RSC-Smart Materials**, Royal Society of Chemistry, Cambridge, UK,** Series Editors: Hans-Jörg Schneider and Mohsen Shahinpoor, (2013)

4-Yadong Yin, “**Responsive Photonic Nanostructures”,** RSC-Smart Materials**, Royal Society of Chemistry, Cambridge, UK,** Series Editors: Hans-Jörg Schneider and Mohsen Shahinpoor, (2013)

5-Peter Fratzl , John Dunlop and Richard Weinkamer, “**Materials Design Inspired by Nature”,** RSC-Smart Materials**, Royal Society of Chemistry, Cambridge, UK,** Series Editors: Hans-Jörg Schneider and Mohsen Shahinpoor, (2013)

6-Norman Wereley, “**Magnetorheology: Advances and Applications**”, RSC-Smart Materials**, Royal Society of Chemistry, Cambridge, UK,** Series Editors: Hans-Jörg Schneider and Mohsen Shahinpoor, (2014)

7-Jiarui Xu and Zhenguo Chi “**[Mechanochromic Fluorescent Materials](http://www.rsc.org/shop/books/2014/9781849738217.asp)**”, RSC-Smart Materials**, Royal Society of Chemistry, Cambridge, UK,** Series Editors: Hans-Jörg Schneider and Mohsen Shahinpoor, (2014)

8-Rawil Fakhrullin, Insung Choi, Yuri Lvov, “[**Cell Surface Engineering**](http://www.rsc.org/shop/books/2014/9781849739023.asp)”, RSC-Smart Materials**, Royal Society of Chemistry, Cambridge, UK,** Series Editors: Hans-Jörg Schneider and Mohsen Shahinpoor, (2014)

9-Wei Chen, Shaowei Chen,”[**Functional Nanometer-Sized Clusters of Transition Metals**](http://www.rsc.org/shop/books/2014/9781849738248.asp)”, RSC-Smart Materials**, Royal Society of Chemistry, Cambridge, UK,** Series Editors: Hans-Jörg Schneider and Mohsen Shahinpoor, (2014)

10-Dietmar Hutmacher, Wojciech Chrzanowski, “**[Biointerfaces](http://www.rsc.org/shop/books/2014/9781849738767.asp): Where Material Meets Biology**”, RSC-Smart Materials**, Royal Society of Chemistry, Cambridge, UK,** Series Editors: Hans-Jörg Schneider and Mohsen Shahinpoor, (2014)

11-Wei Lu, Jie Xiang, “[**Semiconductor Nanowires**](http://www.rsc.org/shop/books/2014/9781849738156.asp)**-I**”, RSC-Smart Materials**, Royal Society of Chemistry, Cambridge, UK,** Series Editors: Hans-Jörg Schneider and Mohsen Shahinpoor, (2014)

12-Wei Lu, Jie Xiang, “[**Semiconductor Nanowires**](http://www.rsc.org/shop/books/2014/9781849738156.asp)**-II**”, RSC-Smart Materials**, Royal Society of Chemistry, Cambridge, UK,** Series Editors: Hans-Jörg Schneider and Mohsen Shahinpoor, (2014)

13-Norbert Koch, “[**Supramolecular Materials for Opto-Electronics**](http://www.rsc.org/shop/books/2014/9781849738262.asp)”, RSC-Smart Materials**, Royal Society of Chemistry, Cambridge, UK,** Series Editors: Hans-Jörg Schneider and Mohsen Shahinpoor, (2014)

14-Atul Tiwari, Alexander Polykarpov, “**Photocured Materials**”, RSC-Smart Materials**, Royal Society of Chemistry, Cambridge, UK,** Series Editors: Hans-Jörg Schneider and Mohsen Shahinpoor, (2014)

15- Hans-Jorg Schneider, editor: “**Chemoresponsive Materials: Stimulation by Chemical and Biological Signals”,** RSC-Smart Materials**, Royal Society of Chemistry, Cambridge, UK,** Series Editors: Hans-Jörg Schneider and Mohsen Shahinpoor, (2015)

16-Mohsen Shahinpoor, editor: **“Ionic Polymer Metal Composites (IPMCs): Smart Multi-functional Materials and Artificial Muscles”, Volume I,** RSC-Smart Materials**, Royal Society of Chemistry, Cambridge, UK,** Series Editors: Hans-Jörg Schneider and Mohsen Shahinpoor, (2015)

17-Mohsen Shahinpoor, editor: **“Ionic Polymer Metal Composites (IPMCs):Smart Multi-functional Materials and Artificial Muscles”, Volume II,** RSC-Smart Materials**, Royal Society of Chemistry, Cambridge, UK,** Series Editors: Hans-Jörg Schneider and Mohsen Shahinpoor, (2015)

18- John George Hardy, Felix H Schacher, editors: **“Functional Metallosupramolecular Materials**”, RSC-Smart Materials**, Royal Society of Chemistry, Cambridge, UK,** Series Editors: Hans-Jörg Schneider and Mohsen Shahinpoor, (2015)

19- Alexander Boker, Patrick van Rijn, editors: **“Bio-Synthetic Hybrid Materials and Bionanoparticles: A Biological Chemical Approach Towards Material Science**”, RSC-Smart Materials**, Royal Society of Chemistry, Cambridge, UK,** Series Editors: Hans-Jörg Schneider and Mohsen Shahinpoor, (2015)

20- Toribio Fernandez Otero, **“Conducting Polymers: Bioinspired Intelligent Materials and Devices**”, RSC-Smart Materials**, Royal Society of Chemistry, Cambridge, UK,** Series Editors: Hans-Jörg Schneider and Mohsen Shahinpoor, (2015)

21- Peng Wang, “**Smart Materials for Advanced Environmental Applications**”, RSC-Smart Materials**, Royal Society of Chemistry, Cambridge, UK,** Series Editors: Hans-Jörg Schneider and Mohsen Shahinpoor, (2016)

22-**Self-cleaning Coatings**edited by Junhui He, Technical Institute of Physics and Chemistry, Chinese Academy of Sciences, China (ISBN 978-1-78262-286-4), Series Editors: Hans-Jörg Schneider and Mohsen Shahinpoor, (2016)

23- **Functional Polymer Composites with Nanoclays**edited by Yuri Lvov, Louisiana Tech University, USA, Baochun Guo, South China University of Technology, China, Rawil F Fakhrullin, Kazan Federal University, Russia (ISBN 978-1-78262-422-6), Series Editors: Hans-Jörg Schneider and Mohsen Shahinpoor, (2016)

24- **Bioactive Glasses**edited by Aldo R Boccaccini, University of Erlangen-Nuremberg, Germany, Delia S Brauer, Friedrich Schiller University Jena, Germany, Leena Hupa, Åbo Akademi University, Finland (ISBN 978-1-78262-976-4, Series Editors: Hans-Jörg Schneider and Mohsen Shahinpoor, 2016)

25- **Smart Materials for Tissue Engineering: Fundamental Principles**edited by Qun Wang, Iowa State University, USA (ISBN 978-1-78262-464-6, Series Editors: Hans-Jörg Schneider and Mohsen Shahinpoor, 2016)

26- **Smart Materials for Tissue Engineering: Applications**edited by Qun Wang, Iowa State University, USA (ISBN 978-1-78262-484-4, Series Editors: Hans-Jörg Schneider and Mohsen Shahinpoor, 2017)

27- ***Smart Materials for Tissue Engineering: Complete Set****edited by Qun Wang, Iowa State University, USA (ISBN 978-1-78801-099-3,*Series Editors: Hans-Jörg Schneider and Mohsen Shahinpoor, *2017)*

*28-***Magnetic Nanomaterials**edited by Stefan H Bossmann, Kansas State University, USA, Hongwang Wang, Kansas State University, USA (ISBN 978-1-78262-788-3, Series Editors: Hans-Jörg Schneider and Mohsen Shahinpoor, 2017)

29- **Biobased Smart Polyurethane Nanocomposites**edited by Niranjan Karak, Tezpur University, India (ISBN 978-1-78801-180-8, Series Editors: Hans-Jörg Schneider and Mohsen Shahinpoor, 2017)

30- **Inorganic Two-dimensional Nanomaterials**edited by Changzheng Wu, University of Science and Technology of China, China (ISBN 978-1-78262-465-3, Series Editors: Hans-Jörg Schneider and Mohsen Shahinpoor, 2017)

31- **Ionic Liquid Devices edited**by Ali Eftekhari, Ulster University, UK (ISBN 978-1-78801-181-5, Series Editors: Hans-Jörg Schneider and Mohsen Shahinpoor, 2017)

32- **Polymerized Ionic Liquids**edited by Ali Eftekhari, Ulster University, UK (ISBN 978-1-78262- 960-3, Series Editors: Hans-Jörg Schneider and Mohsen Shahinpoor, 2017)

33- **Nanogels for Biomedical Applications**edited by Arti Vashist, Florida International University, USA, Ajeet K Kaushik, Florida International University, USA, Sharif Ahmad, Jamia Miliia Islamia, India, Madhavan Nair, Florida International University, USA (ISBN 978-1-78262-862-0, Series Editors: Hans-Jörg Schneider and Mohsen Shahinpoor, 2017)

34- **Reactive Inkjet Printing**edited by Patrick J Smith, University of Sheffield, UK, Aoife Morrin, Dublin City University, Ireland (ISBN 978-1-78262-767-8, Series Editors: Hans-Jörg Schneider and Mohsen Shahinpoor, 2017)

35- **OLED and QLED Displays and Lighting** edited by Poopathy Kathirgamanathan, Brunel University, UK, Arokia Nathan, University of Cambridge, UK (ISBN 978-1-84973-923-8, 2018)

36- **Layered Materials for Energy Storage and Conversion** edited by Dongsheng Geng University of Science and Technology Beijing, China; Yuan Cheng and Gang Zhang Institute of High Performance Computing, A\*STAR, Singapore. (ISBN 9781788014267, 2019)

37- **Electrochromic Smart Materials** edited by Jian Wei Xu, Institute of Materials Research and Engineering, Singapore (ISBN 978-1-78801-143-3, 2019)

38- **Smart Membranes** edited by Liang-Yin Chu, Sichuan University, China (ISBN 978-1-78801-243-0, 2019)

39- **Electronic Sensor Skins** edited by Xian Jun Loh, Institute of Materials Research & Engineering, Singapore, Benjamin C K Tee, Institute of Materials Research and Engineering, Singapore (ISBN 978-1-78801-211-9, 2019)

46 Mohsen Shahinpoor, Guest Editor: “**Smart Materials and Structures International Journal**”, Special Section: **Artificial Muscles**, Vol. 20, No. 12, December (2011)

45 M. Shahinpoor," **Intelligent Robotic Systems: Modeling & Simulation**", ***ERI Press***, Albuquerque, New Mexico, second edition (2011)

44 M. Shahinpoor, Editor-in-Chief, “**International Journal of Environmentally Conscious Design & Manufacturing”, Volume 14**, Numbers 1, 2, 3, and 4, ***ECDM Press***, Albuquerque, NM (2009-2010)

43 M. Shahinpoor and Hans-Jörg Schneider, Editors, “**Intelligent Materials”,** Royal Society of Chemistry (RSC) Publishers, Thomas Graham House, Science Park, Milton Road Cambridge CB4 0WF, Great Britain,1st. edition, (2008)

42 K.J. Kim and M. Shahinpoor, Guest Editors, Special Issue: Biomimetics, Artificial Muscles, and Nano-Bio 2004, ***Journal of Intelligent Material Systems and Structures****,* 2007; 18: 101, (2007)

41 M. Shahinpoor, K.J. Kim and M. Mojarrad, “**Artificial Muscles**: **Applications of Advanced Polymeric Nano Composites**”, CRC Press, Taylor & Francis Group, London SW15 2NU, Great Britain, 1st. edition, (2007)

40 M. Shahinpoor, Editor-in-Chief, “**International Journal of Environmentally Conscious Design & Manufacturing”, Volume 13**, Numbers 1, 2, 3, and 4, ***ECDM Press***, Albuquerque, NM (2006-2007)

39 M. Shahinpoor, K.J. Kim and Mehran Mojarrad, “**Ionic Polymeric Conductor Composite Artificial Muscles**”, ***ERI/AMRI Press***, Albuquerque, New Mexico, 2nd, Edition, (2005)

38 M. Shahinpoor and M. Ahghar, Editor, CD ROM Proceedings of the “**Second World Congress on Biomimetics, Artificial Muscles and Nano-Bio**”, December 6-8, (2004), Albuquerque Marriott, Albuquerque, New Mexico, ERI Press (2005)

37 M. Shahinpoor, Editor-in-Chief, “**International Journal of Environmentally Conscious Design & Manufacturing”, Volume 12**, Numbers 1, 2, 3, and 4, ***ECDM Press***, Albuquerque, NM (2004-2005)

36 Furuya, E. Quandt, Q. Zhang, K. Inoue and M. Shahinpoor, Editors, Proceedings of the Materials Research Society (MRS) Symposium on **“ Materials and Devices For Smart Systems**”, December 2003, Boston, MA., **Materials Research Society (MRS) Publication volume 785**, April (2004)

35 M. Shahinpoor, Editor, Proceedings of the “**First World Congress on Biomimetics and Artificial Muscles**”, December 8-11, (2002), Albuquerque Convention Center, Albuquerque, New Mexico, ERI Press (2003)

34 M. Shahinpoor, K.J. Kim and Mehran Mojarrad, “**Ionic Polymeric Conductor Composite Artificial Muscles**”, ***ERI/AMRI Press***, Albuquerque, New Mexico, 1st. edition, (2004)

33 M. Shahinpoor, Editor-in-Chief, “**International Journal of Environmentally Conscious Design & Manufacturing”, Volume 11**, Numbers 1, 2, 3, and 4, ***ECDM Press***, Albuquerque, NM (2003-2004)

32 M. Shahinpoor, Editor-in-Chief, “**International Journal of Environmentally Conscious Design & Manufacturing”, Volume 10**, Numbers 1, 2, 3, and 4, ***ECDM Press***, Albuquerque, NM (2001-2002)

31 S.G. Popa and M. Shahinpoor, "**Energy, Matter, Intelligence and Life (EMIL);** **The Evolution of EMIL**", Book Publication, ***ECDM Press***, Albuquerque, NM (2000)

30 M. Shahinpoor, Editor-in-Chief, “**International Journal of Environmentally Conscious Design & Manufacturing”, Volume 9**, Numbers 1, 2, 3, and 4, ***ECDM Press***, Albuquerque, NM (2000-2001)

29 M. Shahinpoor, Editor-in-Chief, “**International Journal of Environmentally Conscious Design & Manufacturing”, Volume 8**, Numbers 1, 2, 3, and 4, ***ECDM Press***, Albuquerque, NM (1999-2000)

28 M. Shahinpoor, Jill Watz and Jeff Weinrach, Editors, " **International Journal of Environmentally Conscious Design and Manufacturing", vol.7**, numbers 1, 2, 3 and 4, pp. 1-220, ***ECM Press***, Albuquerque, New Mexico, (1998)

27 L. Davison, and M. Shahinpoor, Editors and Authors, "**High Pressure Shock Compression of Solids III**", ***Springer‑Verlag***, New York‑Heidelberg, (1998)

26 L. Davison, Y. Horie and M. Shahinpoor, Editors and Authors, "**Response of Highly Porous Solids to Shock Loadings**", ***Springer‑Verlag***, New York‑Heidelberg, (1997)

25 M. Shahinpoor, Jill Watz and Jeff Weinrach, Editors, " **International Journal of Environmentally Conscious Design and Manufacturing", vol.6**, numbers 1, 2, 3 and 4, pp. 1-220, ***ECM Press***, Albuquerque, New Mexico, (1997)

24 Mohsen Shahinpoor, Michelle L. Griffith, Gloria J. Wiens and Robert W. Meier, editors: "**Advanced Manufacturing Methods**", ASME-SNL-UNM-ERI Publication, ***ERI Press***, Albuquerque, New Mexico (1997)

23 L. Davison, D. Grady and M. Shahinpoor, Editors, "**Dynamic Fracture & Fragmentation**", ***Springer-Verlag***, New York-Heidelberg, (1996)

22 M. Shahinpoor, Jill Watz and Jeff Weinrach, Editors, " **International Journal of Environmentally Conscious Design and Manufacturing", vol. 5**, numbers 1, 2, 3 and 4, pp. 1-228, ***ECM Press***, Albuquerque, New Mexico, (1996)

21 M. Shahinpoor, and J. Weinrach, Editors, "**Environmentally Conscious Design & Manufacturing : Recent Advances", Vol. IV**, ***ECM Press***, Albuquerque, New Mexico, (1996)

20 W.E. Alzheimer, M. Shahinpoor and S.L. Stanton, "**Virtual Manufacturing**", ***ASME-SNL-UNM-ERI Publication***, ***ERI Press***, Albuquerque, New Mexico (1995)

19 R. Bhada, A. Ghassemi, M. Shahinpoor, and J. Weinrach, Editors and Authors, "**Environmentally Conscious Design & Manufacturing : Recent Advances", Vol. III**, ***ECM Press***, Albuquerque, New Mexico, (1995)

18 M. Shahinpoor, Jill Watz and Jeff Weinrach, Editors, "**International Journal of Environmentally Conscious Design and Manufacturing", vol.4**, numbers 1, 2, 3 and 4, pp. 1-318, ***ECM Press***, Albuquerque, New Mexico, (1995)

17 C. Berger, A. Ghassemi, M. Jamshidi and M. Shahinpoor, Editors, "**Environmentally Conscious Design & Manufacturing : Recent Advances**", **Vol. II**, ***ECM Press***, Albuquerque, New Mexico, (1994)

16 M. Shahinpoor, A. Alzheimer, and A. Bagchi, "**Rapid Prototyping ; Paradigm to Agile Manufacturing**", ***ERI Press***, Albuquerque, New Mexico, (1994)

15 M. Shahinpoor," **Intelligent Robotic Systems: Modeling & Simulation**", ***ERI Press***, Albuquerque, New Mexico, first edition, (1994)

14 M. Shahinpoor and Jeff Weinrach, Editors, "**International Journal of Environmentally Conscious Design and Manufacturing**", **vol.3,** numbers 1, 2, 3 and 4, pp. 1-288, ***ECM Press***, Albuquerque, New Mexico, (1994)

13 R.K. Bhada, A. Ghassemi, T.J. Ward, M. Jamshidi and M. Shahinpoor, Editors "**Waste Management: From Risk to Remediation", vol. 1**, of ***Environmental Management & Intelligent Manufacturing Series, ECM Press***, Albuquerque, New Mexico, (1994)

12 J.R. Asay, M. Shahinpoor,Editors and Authors, "**High Pressure Shock Compression of Solids**", ***Springer-Verlag***, New York, Heidelberg, May (1993)

11 M. Jamshidi, R. Lumia, J. Mullins and M. Shahinpoor, "**Robotics and Manufacturing; Recent Trends in Research, Education and Applications**", ***ASME Press Series***, New York, New York, vol. 4, pp.1-1-12, New York, (1993)

10 M. Shahinpoor and M. Jamshidi, Editors, " **International Journal of Environmentally Conscious Design and Manufacturing", vol.2**, numbers 1, 2, 3,and 4, pp 1-264, ***ECM Press***, Albuquerque, New Mexico, (1993)

9 M. Shahinpoor and H.S. Tzou, "**Intelligent Structures, Materials, and Vibrations**", ***ASME Publication, DE-Vol. 58***, New York, New York, (1993)

8 M. Shahinpoor and R. Ryan," **Vibrations and Dynamics of Robotic and Multibody Structures**", ***ASME Publication, DE-Vol. 57***, New York, New York, (1993)

7 M. Jamshidi, M. Shahinpoor and J. Mullins, Editors, "**Environmentally Conscious Manufacturing-Recent Advances**", ***ECM Press,*** Vol. I, Albuquerque, New Mexico, January (1992)

6 M. Jamshidi and M. Shahinpoor, Editors, "**International Journal of Environmentally Conscious Design and Manufacturing", vol. 1**, numbers 1, 2, 3, and 4, pp. 1-138, ***ECM Press***, Albuquerque, New Mexico, (1992)

5 M. Shahinpoor, "**Robot Technology**", in Russian, ***MIR Publishers***, Moscow, Former Soviet Union, **Russian Translation & Extension of Reference 4 by Harper and Row Publishers, A Robot Engineering Text Book**, (1991)

4 M. Shahinpoor, "**A Robot Engineering Text Book**", ***Harper and Row Publishers***, New York and London (1987)

3 M. Jamshidi, J.Y.S. Lu and M. Shahinpoor, "**Recent Trends in Robotics: Modeling, Control and Education**", ***North-Holland Publishing*** Corp., New York and Amsterdam, November (1986)

2 M. Shahinpoor, Editor, "**Advances in the Mechanics and the Flow of Granular Materials**", **Volume I**, consisting of random packing, morphological characterization, statistical mechanics, electrical, thermal, and general transport properties, ***Trans-Tech. Publications, West Germany***, pp. l-497, (l983)

1 M. Shahinpoor, "**Advances in the Mechanics and the Flow of Granular Materials**", Editor, **Volume II**, consisting of rapid granular flow, fluidization and general dynamics," ***Trans-Tech. Publications***, West Germany, pp. 498-975, (l983)

***12C-Patents, Patent Applications, Publications and Patents Pending:***

*(Listing the most recent ones first)*

67 R. Ecker and M. Shahinpoor, “Devices, Systems, and Methods For Endovascular Surgery”, US Patent Office **Provisional Patent, Docket No. 48420-514P01US**, submitted September 2016

66- M. Shahinpoor and D. Soltanpour, "Double Accommodating Intraocular Accordion Lens”, US patent Office, **Patent Application Serial No. 14/854,323**, awarded May 5th., (2017), **US Patent Number 9,681945** issued May 5th. 2017

65-  M. Mohammadi, M. Shahinpoor and K. Bhata, “Artificial Sphincter”, U.S. Patent Application **Serial No. 61/837,038**, filed:  June 19, 2013 by patent attorneys at Hayes Soloway P.C., Ref: BMS 13.01-P

64- M. Shahinpoor and D. Soltanpour, "Surgical Correction of Ptosis by Polymeric Artificial Muscles-II", CIP for US **Patent No.** **7,625,404,** *US Patent Office,* **Patent No.**,**8,454,691**, Issued June 4, 2013

63- M. Shahinpoor, X. Zheng, P. Kluger and V. Caccese, “Magnetically Transcutaneously Adjustable Thyroplasty Implant”, Provisional Patent, UMaine Technology Commercialization Department, **University of Maine Technology Number 2013-01P, USPTO Provisional No. 61/670,885,** Filed February 5, 2013

62- M. Shahinpoor and S. Gheshmi, “Space-Saving Laparoscopic Surgical Slave Robot”, Provisional Patent, UMaine, **US Patent Office No. 61/718,822**, Filed October 24, 2012

61- M. Shahinpoor and S. Gheshmi, “Intraocular Robotic Surgery System”, Provisional Patent, UMaine, **US Patent Office No.** **61/716,718**, Filed October 22, 2012

60- M. Shahinpoor, D. Soltanpour and P. Shahinpoor, “System and Device for Correcting Hyperopia, Myopia and Presbyopia”, *US Patent Office,* Patent Pending, Serial No. 353319, Filed January 19, 2012, **Patent Publication No.** **20120116505 A1**, May 10, 2012

59- M. Shahinpoor, D. Soltanpour and P. Shahinpoor, “System and Device for Correcting Hyperopia and Presbyopia”, *US Patent Office,* **Patent No.** **8,123,803**, Issued February 28, 2012

58- M. Shahinpoor and S. Gheshmi, “Robotic System for Cataract Surgery”, Provisional patent, **US Patent Office No. 61/533,046**, Filed September 12, 2011

57- M. Shahinpoor and D. Soltanpour, "Synthetic Muscle-Based Multi-Powered Contact Lens”, *US Patent Office,* **Patent No.** **7,850,951**, Issued December 14, 2010

56- M. Shahinpoor and D. Dvorak, "Membrane and Catalyst Composite for Membrane Electrode Assembly", US Patent *Office,* Patent Pending, University of Maine, PCT/US2010/034527, **Serial No. 61/177, 445**, May 12, 2010

55- M. Shahinpoor and D. Soltanpour, "Surgical Correction of Ptosis by Polymeric Artificial Muscles", **CIP** for **US Patent No.** **7,625,404**, *US Patent Office,* **Patent Publication No.** **20100042146A1,** February 18, 2010

54- M. Shahinpoor, V. Caccese, M. Peterson and W. Davids, "Inflatable Wind Turbine Fabric Air Blades", *US Patent Office,* Provisional Patent Application, University of Maine, **Serial No. 61/237,485**, August 2009

53- M. Shahinpoor and D. Soltanpour, "Surgical Correction of Ptosis by Polymeric Artificial Muscles", *US Patent Office,* **Patent No.** **7,625,404**, Issued December 1, 2009

52- M. Shahinpoor and K. Kim, “Method of Fabricating a Dry Electro-Active Polymeric Synthetic Muscle”, *US Patent Office*, **Patent No.** **7,276, 090**, Issued October 2, 2007

51- M. Shahinpoor ,“Shape Memory Alloy Temperature Sensor and Switch”, *US Patent Office*, Patent No. **7, 220, 051**, Issued May 22, 2007

50- M. Shahinpoor, D. Soltanpour ans P. Shahinpoor, "System and Device for Correcting Hyperopia and Presbyopia", *US Patent Office*, Patent Pending, Application Number **11/626,774**, Submitted 1/24/2007

49- M. Shahinpoor, "Electrically-Controllable Multi-Fingered Resilient Heart Compression Devices”, CIP to US Patent No. Number **6,464,655**, *US Patent Office*, Patent No.**7, 198, 594**, Issued April 3, (2007)

48- M. Shahinpoor, D. Soltanpour and P. Shahinpoor, "Surgical Correction of Human Eye Refractive Errors By Active Composite Artificial Muscle Implants”, *US Patent Office*, Patent No. **7,090,696**, CIP to US Patent No. **6,511,508B1,** Issued August 15, 2006

47- M. Shahinpoor, "Wire Equipped with Electrically Bendable Distal Tip Made with Artificial Muscle", *US Patent Office*, Provisional Patent Pending, Provisional Application Number **60005205,** 11/10/2006

46- M. Shahinpoor and D. Soltanpour, "Synthetic Muscle-Based Multi-Powered Active Contact Lens”, *US Patent Office,* Serial No. **11/358,530**, February (2006), Published Application

45- M. Shahinpoor and D. Soltanpour, "Accommodating Zonular Mini-Bridge Implants”, *US Patent Office*, United States Patent Number **7,060,09**, Issued June 13, 2006

44- M. Shahinpoor, “Shape Memory Alloy Temperature Sensor-2: CIP", *US Patent Office*, United State Patent No. **6,837,620,** Issued January 4, 2005

43- M. Shahinpoor and S. G. Popa, “Bioelectric Sensor and Switch System for Medical Imaging”, *US patent Office*, United States Patent No. **6,829,499,** Issued December 7, 2004

42- D. Soltanpour and M. Shahinpoor, "Synthetic Muscle-Based Diaphragm Pump Apparatuses", *US Patent Office*, United States Patent No. **6,682,500**, Issued January 27, 2004

41- A. Goodman and M. Shahinpoor, "Disk Drive Optical Switch", *US Patent Office,* United State Patent No. **6,678,434,** Issued January 13, 2004.

40- M. Shahinpoor, "Shape Memory Alloy Temperature Sensor", *US Patent Office*, United State Patent No. **6,612,739,** Issued September 2, 2003

39- D. Soltanpour and M. Shahinpoor, “Implantable Micro-Pump Assembly”, *US Patent Office No.* **6,589,198,** Issued July 8, 2003.

38- M. Shahinpoor, D. Soltanpour and P. Shahinpoor, "Surgical Correction of Human Eye Refractive Errors By Active Composite Artificial Muscle Implants“, *US Patent Office*, No. **6,511,508** Issued January 28, 2003, also PCT Application No. **2323-00-PCT** filed July (2001)

37- M. Shahinpoor and M. Mojarrad, "Ionic Polymer Sensors and Actuators", *US Patent Office,* No. **6,475,639**, Issued November 5, 2002.

36- M. Shahinpoor, "Electrically-Controllable Multi-Fingered Resilient Heart Compression Devices”, *US Patent Office*, Number **6,464,655**, Issued October 15, (2002)

35- M. Shahinpoor, S. G. Popa and L. Sillerud, "Smart Fiber Optic Magnetometer"*, US Patent Office*, Number **6,433,543**, Issued, August 13, (2002)

34- M. Shahinpoor and K. Kim, "Metal Hydride Artificial Muscles,", *US Patent Office*,United State Patent**6,405,532,** Issued June 18, (2002)

33- A. Goodman and M. Shahinpoor, "Dynamic Multi-Channel Fiber Optic Switch", *US Patent Office,* United State Patent*,* **6,381,382,** Issued April 30, (2002)

32- A. Goodman and M. Shahinpoor, "Dynamic Fiber Optic Switch with Artificial Muscles", *US Patent Office,* United States Patent **6,192,171**, issued February 20, (2001)

31- A. Goodman and M. Shahinpoor, "Dynamic Fiber Optic Switch", *US Patent Office,* United States Patent **6,181,844**, Issued January 30, (2001)

30- M. Shahinpoor and M. Mojarrad, "Soft Actuators and Artificial Muscles", *US Patent Office,* United States Patent **6,109,852**, Issued August 29, (2000)

29- M. Shahinpoor, "Fibrous, Parallel Spring-Loaded Shape-Memory Alloy (SMA) Robotic Linear Actuators", *US Patent Office,* United States Patent **5,821,664**, Issued October 13, (1998)

28- M. Shahinpoor and D. R. Martinez, "Shape Memory Alloy Thaw Sensors", *US Patent Office,* US Patent Number **5,735,607**, issued April 7, (1998)

27- M. Shahinpoor, "Omni-Directional Electromagnetic Rail Launchers", *US Patent Office,* US Patent No. **5,435,225**, Issued July 25, (1995)

26- M. Shahinpoor, "Spring-Loaded Ionic Polymeric Gel Linear Actuator", *US Patent Office,* US Patent No. **5,389,222**, Issued February 14, (1995)

25- R. S. Hawke, J. R. Asay, C. A. Hall, C. H. Konrad, G. L. Sauve, M. Shahinpoor and A. R. Susoeff, "Hybrid Armature Projectile", *US Patent Office,* US Patent No. **5,191,164**, Issued March 2, (1993)

24- D. R. Adolf, M. Shahinpoor, D. J. Segalman and W. R. Witkowski, "Electrically Controlled Polymeric Gel Actuators", (world’s first patent on synthetic artificial muscles), *US Patent Office,* US Patent No. **5,250,167**, Issued October, 5, (1993)

23- M. Shahinpoor, "Robotic Apparatus", *US Patent Office,* US Patent No. **5,114,300**, Issued May 19, (1992)

22- M. Shahinpoor, "Deployable Spatial Structure", *US Patent Office,* United States Patent **5,038,532**, Issued August 13, (1991), "The Magic Wheel", New York Times selected Invention of 1991, August 17, (1991)

21- M. Shahinpoor and E. Kotke, "Bio-Potential Activation of Artificial Muscles”, *US Patent and Trademark Office, Application No.* **10/605,676,** October 2003, Published Application

20- M. Shahinpoor and D. Soltanpour, "Heat-Shrink Scleral Band with Custom-Made Buckle for Retinal Detachment Surgery", Patent Pending, US Patent and Trademark Office Application Number **10/707662, EFS ID No. 52983,** Submitted December 30, 2003, Published Application

19- A. Goodman and M. Shahinpoor, "Disc Drive Optical Switch with Multiple Transition Channels", *US Patent Office*, June 2001, **CIP on** Serial No. **09/626, 342** , Published Application (2001)

18- M. Shahinpoor and D. Soltanpour, "Accommodating Zonular Mini-Bridges”, *US Patent Office*, Serial Number **09/759,766**, January, (2002), Patent Allowed 2/15/2006, Published Application

17- M. Shahinpoor and K. Kim, "Solid State Polymeric Sensors, Transducers and Actuators”, *US Patent Office,* Serial No. **09/217,210**, July (2001), Published application, Patent changed name.

16- M. Shahinpoor, D. Soltanpour and P. Shahinpoor, "Nitric Oxide (NO) Donor+cGMP-PDE5 Inhibitor As A Topical Drug For Glaucoma", *US Patent Office*, Application No. **10/064,627**, July 31st., (2002), Published Application No. **20020168424A1,** November 14, (2002)

15- M. Shahinpoor, D. Soltanpour and P. Shahinpoor, "Nitric Oxide(NO) Donor+cGMP-PDE5 Inhibitor As A Topical Drug For Enhanced Hair Growth", *US Patent Office*, Application No. **10/064,698**, August 7, (2002), Published Application No. **20020182162A1,** December 5, (2002)

14 M. Shahinpoor, M. Ahghar and N. C. Popa, "Novel Electrically Active Ionic Polymer Metal Composites and Novel Methods of Manufacturing Them", *US Patent Office*, Application No. **10/064,729**, August 9, (2002), Published Application No. **20040025639A1**, February 12, (2004)

13- M. Shahinpoor, D. Soltanpour and P. Shahinpoor, "Surgical Correction of Human Eye Refractive Errors By Active Composite Artificial Muscle Implants”, *US Patent Office*, Serial No. **09/633,023**, CIP Application submitted (December 2002), continuation and expansion of claims of the US Patent No. **6,511,508B1**, Patent Allowed 11/28/2005, Published Application

12- D. F. Armijo and M. Shahinpoor, "Anti-Snoring Apparatus and Method”, *US Patent Office,* Serial No. **10/872,181**, June (2004), Published Application No. **20050279365A1**, December 22, (2005)

11- M. Shahinpoor, "Shape Memory Alloy Temperature Sensor and Switch”, *US Patent Office,* Serial No. **11/023,874**, December (2004), Published Application

10- M. Shahinpoor, "Human Lower Limb Performance Enhancement Outfit”, *US Patent Office,* Serial No. **11/115,731**, April (2005), Published Application No. **20060240953A1**, October 26, (2006)

9- M. Shahinpoor, "Human Lower Limb Performance Enhancement Outfit Systems”, *US Patent Office,* Serial No. **11/180,349**, July (2005), Published Application No. **20060240954A1**, October 26, (2006)

8- M. Shahinpoor, "Backpack Support Apparatus”, *US Patent Office,* Serial No. **11/180,356**, July (2005), Published Application No. **20060240960A1**, October 26, (2006)

7- M. Shahinpoor and D. Sohrabpour, "Surgical Correction of Ptosis by Polymeric Artificial Muscles”, *US Patent Office,* Serial No. **11/318,665**, December (2005), Published Application No. **20070150058A1**, June 28, (2007)

6- M. Shahinpoor and D. Soltanpour, "Synthetic Muscle-Based Multi-Powered Active Contact Lens”, *US Patent Office,* Serial No. **11/358,530**, February (2006), Published Application No. **20070196430A1**, August 23, (2007)

5- M. Shahinpoor, "Inertial Solar Engine", Iran Patent Office, No**. l66l5/54- ll-5**, Tehran, Iran, (l977)

4- M. Shahinpoor, "Network of Oscillating Jets for Passive Irrigation", Iran Patent Office, No. **l3854/54-8-27**, Tehran, Iran, (l976)

3- M. Shahinpoor, "Liquid Crystal Writing Board", Iran, Patent Office, No. **l3853/54-8-27**, Tehran, Iran (l976)

2- M. Shahinpoor, "Pistachio-Sorting Machine", Iran Patent Office, No. **l3l97/53-3-29**, Tehran, Iran, (l975)

1- M. Shahinpoor, "Cholesteric Liquid Crystal Chromo-Pressure Gauge", U.S.-Int. Inv. Inc., No. A-3l6-747, Iran Patent Office, No**. l2393/53-8-29**, Tehran, Iran, (l975)

***12D-Refereed Papers Published in Conference Proceedings:***

*(Listing the most recent ones first)*

255 A. Saberi, S. Ashworth and M. Shahinpoor, “Ionic Polymer Metal Composites (IPMCs) Micropillars for Real-Time Dynamic Tracking of Biological Cells Adhesion, Migration and Traction”, **Proceedings of the 2016 Smart Materials, Adaptive Structures and Intelligent Systems ,** 2016 SMASIS , September 28-30, 2016, Stowe, Vermont, USA

254 [H. Asanuma](http://profiles.spiedigitallibrary.org/summary.aspx?DOI=10.1117%2f12.2222153&Name=H.+Asanuma), [J. Su](http://profiles.spiedigitallibrary.org/summary.aspx?DOI=10.1117%2f12.2222153&Name=J.+Su), [M. Shahinpoor](http://profiles.spiedigitallibrary.org/summary.aspx?DOI=10.1117%2f12.2222153&Name=M.+Shahinpoor), [F. Felli](http://profiles.spiedigitallibrary.org/summary.aspx?DOI=10.1117%2f12.2222153&Name=F.+Felli), [A. Paolozzi](http://profiles.spiedigitallibrary.org/summary.aspx?DOI=10.1117%2f12.2222153&Name=A.+Paolozzi),[M. Nejhad](http://profiles.spiedigitallibrary.org/summary.aspx?DOI=10.1117%2f12.2222153&Name=M.+Nejhad),[L. Hihara](http://profiles.spiedigitallibrary.org/summary.aspx?DOI=10.1117%2f12.2222153&Name=L.+Hihara), [S. Aimmanee](http://profiles.spiedigitallibrary.org/summary.aspx?DOI=10.1117%2f12.2222153&Name=S.+Aimmanee), [Y. Furuya](http://profiles.spiedigitallibrary.org/summary.aspx?DOI=10.1117%2f12.2222153&Name=Y.+Furuya), [K. Adachi](http://profiles.spiedigitallibrary.org/summary.aspx?DOI=10.1117%2f12.2222153&Name=K.+Adachi), [T. and Yanaseko](http://profiles.spiedigitallibrary.org/summary.aspx?DOI=10.1117%2f12.2222153&Name=T.+Yanaseko), “Disasterer Mitigation Based on Smart Structures/Materials”, **Proc. SPIE 9803, Sensors and Smart Structures Technologies for Civil, Mechanical, and Aerospace Systems, Volume 9803, (**2016), 980302 (April 20, 2016)

|  |
| --- |
| 253 A. Saberi, S. Ashworth and M. Shahinpoor, “Ionic polymer metal composites (IPMCs) substrates and micro pillars as smart real time sensing systems to study biological cells adhesion, traction and migration”, **Proceedings of 2015 ASME-International Mechanical Engineering Congress and Exposition, IMECE2015-52278,** November 15-18, Houston, TX, USA (2015) |
|  |  |

252 M. Shahinpoor and Hiroshi Asanuma, “Dynamic Deployment of Smart Inflatable Tsunami Airbags (TABs) for Tsunami Disaster Mitigation**”, Proceedings of 2015 ASME Conference on Smart Materials, Adaptive Structures and Intelligent Systems, SMASIS2015-8904**, September 21-23, Colorado Springs, Colorado, USA (2015)

251 M. Seidi, M. Hajiaghamemar, E. Tabatabaei and M. Shahinpoor, “Ionic Polymer-Metal Composites (IPMCs) as Impact Sensors”, **Proceedings of 2015 ASME Conference on Smart Materials, Adaptive Structures and Intelligent Systems**, **SMASIS2015-8842**, September 21-23, Colorado Springs, Colorado, USA (2015)

250 M. Shahinpoor, “Characterization and Modeling of Smart Multi-Functional Ionic Biomaterial Metal Composites Actuators and Sensors”, Proceedings of 2015 ASME Conference on Smart Materials, Adaptive Structures and Intelligent Systems, SMASIS2015-8839, Technical Presentation Only, September 21-23, Colorado Springs, Colorado, USA (2015)

249 A. Saberi, S. Ashworth and M. Shahinpoor, “Ionic Polymer Metal Composites (IPMC) For Real Time Dynamic Monitoring and Sensing of Biological Cells Adhesion, Traction and Migration”, **Proceedings of the 8th World Congress on Biomimetics, Artificial Muscles, and Nano-Bio, BAMN 2015**, August 24-26, 2015 Vancouver, Canada

248 M. Shahinpoor, “Ionic Polymer-Metal Composites as Haptic Feedback/Tactile Sensors and Dexterous Manipulators for Minimally Invasive Robotic Surgery”, **Proceedings of the 8th World Congress on Biomimetics, Artificial Muscles, and Nano-Bio, BAMN 2015**, August 24-26, 2015 Vancouver, Canada

## 247 M. Mohammadi, M. Shahinpoor, Nivedita Dhar, K. Bhata, “Magnetic Artificial Sphincter (MARS)”, **Proceedings of the 66th Annual Meeting of the NSAUA 2014,** Amelia Island, Florida, November 13-15, 2014

246 M. Hajiaghamemar, M. Seidi, W. Andrew, Hodge, A. E. Allen, J. St. Pierre, J. A. Long, V. Caccese, M. Shahinpoor, S. Elmer, “Quantifying Functional Improvements Following X-STOP Spacer Procedure for Treatments of Spinal Stenosis: A Case Report”, **Proceedings of 2013 New England Chapter of the American College of Sports Medicine,** Fall 2013 Conference, (2013)

245 M. Shahinpoor, “Biomimetic Robotic Venus Flytrap”, ***Proceedings of the 7th International Congress on Biomimetics, Artificial Muscles and Nano-Bio (Nano-Bio 2013),*** Jeju Island, South Korea, August 26-30, (2013)

244 M. Shahinpoor, “Chitosan/IPMCs Artificial Muscles”, **Proceedings of the 4th. International Conference on Smart Materials, Structures and Systems (CIMTEC 2012)**, June 10-14, 2012, Montecatini Terme, Tuscany, Italy, published by Scientific.net publishers, (2012)

243 Y. Bahramzadeh and M. Shahinpoor, “Ionic Polymer-Metal Composites (IPMCs) as Dexterous Manipulators and Tactile Sensors for Minimally Invasive Robotic Surgery”, ***Proceeding of SPIE 19th Annual International Symposium on Smart Structures and Materials*,** 11-15 March, 2012, Town & Country Resort and Convention Center, San Diego, California, (2012)

242 M. Shahinpoor, “IPMC Artificial Muscles Mechatronics-Future Prospectus”, ***Proceedings of the 6th International Congress on Biomimetics, Artificial Muscles and Nano-Bio (Nano-Bio 2011),*** Cergy-Pontoise, Paris, France, October 25-27, (2011)

241 M. Shahinpoor, “Ion Flux Dynamics with Friction in Ionic Polymer Metal Composites (IPMCs)”, ***Proceedings of the 6th International Congress on Biomimetics, Artificial Muscles and Nano-Bio (Nano-Bio 2011),*** Paris, France, October 25-27, (2011)

240 M. Shahinpoor, "Ionic Polymer Conductor Nano-Composite Materials (IPCNC) Also known As IPMCs: As Distributed Nanosensors, Nanoactuators, Nanotransducers and Artificial Muscles", ***Proceedings of 4th. Joint European Society of Artificial Organs (ESAO) and International federation for Artificial Organs (IPAO) Congress 2011***, October 9-12, 2011, Porto Congress Center, Portugal, (2011)

239 M. Shahinpoor, “Energy Harvesting By Ionic Polymer Metal Nano-Composites (IPMCs)”, ***Proceedings of the International Materials Research Congress XX, 2011***, **Cancun Mexico**, August 14 - 19, 2011, Symposium 16: Smart Materials, Devices and Related Technologies (2011)

238 Y. Bahramzadeh and M. Shahinpoor, “Endovascular Microcatheter Equipped With Smart Distal Tip Stirrer Made With IPMC Artificial Muscles**” ,** the**Proceedings of JSME/ASME-2011 International Conference on Materials and Processing,** June 13-17, 2011, Oregon State University, Corvallis, Oregon, USA (2011)

237 Y. Bahramzadeh and M. Shahinpoor, “Charge Modeling of Ionic Polymer-Metal Composites for Dynamic Curvature Sensing”, ***Proceedings of SPIE 18th Annual International Symposium on Smart Structures and Materials*,** 6-10 March, 2011, San Diego, California, (2011)

236 Y. Bahramzadeh and M. Shahinpoor, “Characterizing of Ionic Polymer Metal Composites (IPMCs) for Sensitive Curvature Measurement”, Article No. SMASIS2010-3799 , **Proceedings of the** **ASME 2010 Conference on Smart Materials, Adaptive Structures and Intelligent Systems**, SMASIS2010 September 28 - October 1, 2010, Philadelphia, Pennsylvania, USA

235 S. David Dvorak and Mohsen Shahinpoor, “A New Membrane Electrode Assembly for Low-Temperature PEM Fuel Cells”, **Proceedings of Extended Abstracts**, Control/Tracking Number: 2010-137-A-FCS&E, **Fuel Cell Seminar & Exposition Headquarters**, c/o South Carolina Hydrogen and Fuel Cell Alliance, PO Box 12302, Columbia SC 29211, (2010)

234 S. David Dvorak and Mohsen Shahinpoor, “A New Membrane Electrode Assembly for Low-Temperature PEM Fuel Cells Having a Nanocomposite Catalyst Layer”, Manuscript ID: 668938, **Proceedings of** **Materials Research Society Symposium on Fuel Cells,** **MRS**, (2010)

233 M. Shahinpoor, “Electromechanics of Ionic Polymer Metal Composites-Fundamentals”, **Proceedings of the** **16th US National Congress of Theoretical and Applied Mechanics**, June 27-July 2, 2010, College Park, PA**.,** CD ROM Proceedings, (2010)

232 M. Shahinpoor, “Surgical Correction of Ptosis by Ionic Polyacrylonitrile Artificial Muscles”, **Proceedings of the** **American Society for Artificial Internal Organs (ASAIO), 56th. Annual Conference**, May 27-29, Baltimore, Md., CD ROM Proceedings, (2010)

231 M. Shahinpoor, “Artificial Muscles”, **Proceedings of the American Society for Artificial Internal Organs (ASAIO), 56th. Annual Conference,** May 27-29, Baltimore, Md., CD ROM Proceedings, (2010)

230 M. Shahinpoor, “Surgical Correction of Ptosis by Polymeric Artificial Muscles”, **Proceedings of** **4th International Conference on Artificial Muscles, 5th International Congress on Biomimetics, Artificial Muscles and Nano-Bio (Nano-Bio 2009)**, Seri Life Science Center, Osaka, Japan, November 25-28, CD ROM Proceedings, (2009)

229 M. Shahinpoor, “Robotic Venus Flytrap (Dionaea Muscipula) made with IPMCs”, **Proceedings of** **4th. International Conference on Artificial Muscles, 5th International Congress on Biomimetics, Artificial Muscles and Nano-Bio (Nano-Bio 2009)**, Seri Life Science Center, Osaka, Japan, November 25-28, (2009)

228 M. Shahinpoor, “Modelling of Large Deflection of IPMC Plates”, Special Session on “Ionic Polymer Metal Composites”, **Proceedings of** **DSC09, 2009 ASME Dynamic Systems and Control Conference** and Bath/ASME Symposium on Fluid Power & Motion Control, Theme: System Engineering, Renaissance Hollywood Hotel, October 12-14, Hollywood, California, (2009)

227 M. Shahinpoor, “Micro-Catheter Equipped with a Biomimetic Soft Robotic Polymeric Artificial Muscle Distal Tip Bender, Actuator and Sensor for Neurological Endovascular Surgery”, **Proceedings of the 22nd. International Congress on Computer-Assisted Radiology and Surgery** (**CARS 2008**), Barcelona, Spain, June 23-28, (2008)

226 M. Shahinpoor, “Ionic Polymeric Conductor Nano Composites (IPCMCs) As Distributed Nanosensors and Nanoactuators”, **Proceedings of the 3rd. International Congress on Smart Materials, Structures and Systems** (**CIMTEC 2008**), Acireale, Sicily, Italy, June 8-13, (2008)

225 R. Lumia and M. Shahinpoor, “IPMC Microgripper Research and Development”, **Proceedings of the 4th International Congress on** **Biomimetics, Artificial Muscles and Nano-Bio 2007**, (BAMN 2007), Cartagena, Spain, Europe, November 6-8, (2007)

224 M. Shahinpoor, “Recent Advances in Ionic Polymer Metal Nanocomposites as Distributed Biomimetic Nanosensors, Nanoactuators and Artificial Muscles”, **Proceedings of the 4th International Congress on** **Biomimetics, Artificial Muscles and Nano-Bio 2007**, Cartagena, Spain, Europe, November 6-8, (2007)

223 Mohsen Shahinpoor, “Ionic Polymer Conductor Nano-Composites as Distributed Nanosensors, Nanoactuators and Artificial Muscles-A review”, Proceedings of **Mater. Res. Soc. Symp. Proc.,** Vol. 949, No. 0949-C07-01, (2007)

222 X. Tan, D. Kim, E. Goodman and M. Shahinpoor, “A Hands-on Paradigm for EAP Education: Undergraduates, Pre-college Students, and Beyond”, **Proceedings of 14th.SPIE International Symposium on: Smart Structures and Materials & Nondestructive Evaluation and Health Monitoring**,18-23 March 2007, San Diego, California, Paper No.6524-3, (2007)

221 John G. Michopoulos and Mohsen Shahinpoor, ”Data-Driven Inverse Modelling of Ionic Polymer Conductive Composite Plates”,  **Proceedings of the Third World Congress On Biomimetics, Artificial Muscle and Nano-Bio (Biomimetics and Nano-Bio 2006),** May 25-28, 2006 Lausanne, Switzerland (2006)

220 M. Shahinpoor, ”Ionic Polymer Metal Composites As Distributed Nanosensors, Nanoactuators and Artificial Muscles-A Review”, **Proceedings of the Third World Congress On Biomimetics, Artificial Muscle and Nano-Bio (Biomimetics and Nano-Bio 2006),** May 25-28, 2006 Lausanne, Switzerland (2006)

219 M. Shahinpoor, ”Electrochemically Active Artificial Muscles”, **Proceedings of the Third World Congress On Biomimetics, Artificial Muscle and Nano-Bio (Biomimetics and Nano-Bio 2006)**, May 25-28, 2006 Lausanne, Switzerland (2006)

218 M. Shahinpoor, ”Electroactive Polymer Actuators For Sequential/Peristaltic

 Heart and Aorta Compression”, **Proceedings of the Third World Congress On Biomimetics, Artificial Muscle and Nano-Bio (Biomimetics and Nano-Bio 2006)**, May 25-28, 2006 Lausanne, Switzerland (2006)

217 Ujwal Deole, Ron Lumia, Mohsen Shahinpoor,“Design and Test of IPMC Artificial Muscle Microgripper”,**Proceedings of the Third World Congress On Biomimetics, Artificial Muscle and Nano-Bio (Biomimetics and Nano-Bio 2006)**, May 25-28, 2006 Lausanne, Switzerland (2006)

216 John G. Michopoulos and Mohsen Shahinpoor, ”Data-Driven Inverse Modeling of Ionic Polymer Conductor Composite Plates”, **Lecture Note in Computer Science, Vol. 3992/2006, Proceedings of 6th. International Conference**, Reading, UK, May 28-31, pp. 131-138, (2006)

215 John G. Michopoulos and Mohsen Shahinpoor, ”Data-Driven Modeling of Multi-Field Ionic Polymer Plates”, **IMECE2005-82426, Proceedings of ASME-IMECE 2005**, ASME International Mechanical Engineering Congress and RD&D Exposition, November 5-11, 2005, Orlando/Orange County Convention & Visitors Bureau, Orlando, Florida (2005)

214 M. Shahinpoor, “Smart ionic Polymer Conductor Composite Materials As multifunctional distributed nanosensors, nanoactuators and artificial muscles”, **IMECE2005-79394, Proceedings of ASME-IMECE 2005**, ASME International Mechanical Engineering Congress and RD&D Exposition, November 5-11, 2005, Orlando/Orange County Convention & Visitors Bureau, Orlando, Florida (2005)

213 M. Shahinpoor ”Recent Advances In Ionic Polymer Conductor Composite Materials As Distributed Nanosensors, Nanoactuators And Artificial Muscles”, ***Proceeding of SPIE 12th Annual International Symposium on Smart Structures and Materials*,** 7-10 March, 2005, San Diego, California, SPIE Publication No. 5759, pp. 49-63, (2005)

212 Zheng Chen, Xiaobo Tan, and Mohsen Shahinpoor, “Quasi-static Positioning of Ionic Polymer-Metal Composite (IPMC) Actuators”, **Proceedings of the IEEE/ASME Conference on Advanced Intelligent Machatronics, pp. 60- 65, (AIM 2005)**, July 24-28, Monterey, California, USA, (2005)

211 Colozza, A., Shahinpoor, M., Jenkins, P., Smith, C., Isaac, K. and Dalbello, T., “Solid State Aircraft Concept Overview”, ***Proceedings of 2004 NASA/DoD Conference on Evolvable Hardware (EH’04)*, The Computer Society Publication,**  pp. 318-324, (2004)

210 J.G. Michopolous and M. Shahinpoor, “Experimental Calibration of Non-Linear Continuum Multi-Field Ionic Polymer Plate Modeling”, **Proceedings of the Second World Congress On Biomimetics and Artificial Muscle (Biomimetics and Nano-Bio 2004)**, December 5-8, 2004, Albuquerque Convention Center, Albuquerque, New Mexico, USA, (2004)

209 Ethan A. Kottke, L. D. Partridge, Mohsen Shahinpoor “Bio-Potential Neural Activation of Artificial Muscles”, **Proceedings of the Second World Congress On Biomimetics and Artificial Muscle (Biomimetics and Nano-Bio 2004)**, December 5-8, 2004, Albuquerque Convention Center, Albuquerque, New Mexico, USA, (2004)

208 M. Shahinpoor, “Ionic Polymer Conductor Composite Materials as Distributed Nanosensors, Nanoactuators and Artificial Muscles - A Review", **Proceedings of the Second World Congress On Biomimetics and Artificial Muscle (Biomimetics and Nano-Bio 2004)**, December 5-8, 2004, Albuquerque Convention Center, Albuquerque, New Mexico, USA, (2004)

207 Ujwal Deole, Ron Lumia, Mohsen Shahinpoor, “Characterization of Impedance Properties of Ionic Polymer Metal Composite Actuators”, **Proceedings of the Second World Congress On Biomimetics and Artificial Muscle (Biomimetics and Nano-Bio 2004)**, December 5-8, 2004, Albuquerque Convention Center, Albuquerque, New Mexico, USA, (2004)

206 Piergiorgio Tozzi, Mohsen Shahinpoor, Daniel Hayoz and Ludwig von Segesser “Electroactive Polymers to Assist Failing Heart: The Future Is Now**”, Proceedings of the Second World Congress On Biomimetics and Artificial Muscle (Biomimetics and Nano-Bio 2004),** December 5-8, 2004, Albuquerque Convention Center, Albuquerque, New Mexico, USA, (2004)

205 G. Lloyd, K.J. Kim, A. Razani and M. Shahinpoor, “Thermally Driven Mechanical Actuation by Using Absorption/Desorption of Metal Hydrides: A Comprehensive Simulation”, **IMECE2004-60449, Proceedings of ASME-IMECE2004**, 2004 ASME International Mechanical Engineering Congress and RD&D Exposition, November 13-19, 2004, Anaheim Convention center/Hilton, Anaheim, California, (2004)

204 M. Shahinpoor, “Smart Thin Sheet Batteries Made With Ionic Polymer-Metal Composites (IPMC’s)”, **IMECE2004-60954, Proceedings of ASME-IMECE2004**, 2004 ASME International Mechanical Engineering Congress and RD&D Exposition, November 13-19, 2004, Anaheim Convention center/Hilton, Anaheim, California, (2004)

203 U. Doele, R. Lumia and M. Shahinpoor, “Grasping Flexible Objects Using Artificial Muscles Micro-Grippers”, **Proceedings of the 2004 World Automation Conference (WAC 2004)**, June 28-July 1, 2004, Seville, Spain, (2004)

202 K.J. Kim, , K. Choe, R. Samathan, J. Nam, M. Shahinpoor and J. Adams, ”Toward Nanobiomimetic Muscles: Polyacrylonitrile Nanofibers”, ***Proceeding of SPIE 11th Annual International Symposium on Smart Structures and Materials*,** 14-18 March, 2004, San Diego, California, SPIE Publication No. 5385-62, pp.33-43, (2004)

201 M. Shahinpoor, “Ionic Polymer Conductor Composites As Distributed Nanosensors, Nanoactuators and Artificial Muscles-A Review of Recent Findings”,***Proceeding of The International Conference on Advanced Materials and Nanotechnology, AMN-1, The MacDiarmid Institute for Advanced Materials and Nanotechnology****, 9-11 February 2003, Wellington, New Zealand,* pp. 14-22, (2003)

200 K. J. Kim, J. Caligiuri and M. Shahinpoor “Contraction/Elongation Behavior of Cation- Modified Polyacrylonitrile Fibers”,***Proceeding of SPIE 10th Annual International Symposium on Smart Structures and Materials*,** 2-6 March, 2003, San Diego, California, SPIE Publication No. 5051-23, pp. 207-213, (2003)

199 J. Tyson, T. Schmidt, K. Galanulis, M. Shahinpoor, “Full-field Deformation & Strain Measurement in Biomechanics & Biomimetics”, **Proceedings of the First World Congress On Biomimetics and Artificial Muscle (Biomimetics 2002)**, December 9-11, 2002, Albuquerque Convention Center, Albuquerque, New Mexico, USA, (2002)

198 D. Soltanpour, P. Shahinpoor and M. Shahinpoor, “Development of An Artificial Muscle Based Smart Band To Correct Refractive Errors of The Human Eye”, **Proceedings of the First World Congress On Biomimetics and Artificial Muscle (Biomimetics 2002)**, December 9-11, 2002, Albuquerque Convention Center, Albuquerque, New Mexico, USA, (2002)

197 D. Soltanpour and M. Shahinpoor, “Development of A Synthetic-Muscle based Miniature Diaphragm Pump For Medical Applications”, **Proceedings of the First World Congress On Biomimetics and Artificial Muscle (Biomimetics 2002)**, December 9-11, 2002, Albuquerque Convention Center, Albuquerque, New Mexico, USA, (2002)

196 R. Lumia and M. Shahinpoor, “Artificial Muscle Micro-Gripper”, **Proceedings of the First World Congress On Biomimetics and Artificial Muscle (Biomimetics 2002)**, December 9-11, 2002, Albuquerque Convention Center, Albuquerque, New Mexico, USA, (2002)

195 J.G. Michopolous and M. Shahinpoor, “Continuous Electrodynamic Estimation of Impedance Associated with Multi-Dimensional Ionic Polymeric Artificial Muscles”, **Proceedings of the First World Congress On Biomimetics and Artificial Muscle (Biomimetics 2002)**, December 9-11, 2002, Albuquerque Convention Center, Albuquerque, New Mexico, USA, (2002)

194 J.G. Michopolous and M. Shahinpoor, “Towards A Multiphysics Formulation of Electroactive Large Deflection Plates Made From Ionic Polymeric Artificial Muscles”, **Proceedings of the First World Congress On Biomimetics and Artificial Muscle (Biomimetics 2002)**, December 9-11, 2002, Albuquerque Convention Center, Albuquerque, New Mexico, USA, (2002)

193 K.J. Kim and M. Shahinpoor, “Electrical Activation of Contractile Polyacrylonitrile (PAN)-Conductor Composite Fiber Bundles As Artificial Muscles”, **Proceedings of the First World Congress On Biomimetics and Artificial Muscle (Biomimetics 2002)**, December 9-11, 2002, Albuquerque Convention Center, Albuquerque, New Mexico, USA, (2002)

192 M. Shahinpoor and M. Ahghar, “Modeling of Electrochemical Deformation in Poly-acrylonitrile (PAN) Artificial Muscles”, **Proceedings of the First World Congress On Biomimetics and Artificial Muscle (Biomimetics 2002)**, December 9- 11, 2002, Albuquerque Convention Center, Albuquerque, New Mexico, USA, (2002)

191K. J. Kim, J. Caligiuri, K. Choi, M. Shahinpoor, I. D. Norris, B. R. Mattes “Polyacrylonitrile Nanofibers as Artificial Nano-Muscles”, **Proceedings of the First World Congress On Biomimetics and Artificial Muscle (Biomimetics 2002)**, December 9-11, 2002, Albuquerque Convention Center, Albuquerque, New Mexico, USA, (2002)

190M. Shahinpoor, “Applications of Ionic Polymer Conductor Composites (IPCC's) to Nanotechnology and Nano Robots”, **Proceedings of the First World Congress On Biomimetics and Artificial Muscle (Biomimetics 2002)**, December 9-11, 2002, Albuquerque Convention Center, Albuquerque, New Mexico, USA, (2002)

189K. Kim, J. Detweiler, G. Lloyd, M. Shahinpoor, A. Razani, “Experimental & Theoretical Investigation of a Metal Hydride Artificial Muscle”,**Proceedings of the First World Congress On Biomimetics and Artificial Muscle (Biomimetics 2002)**, December 9-11, 2002, Albuquerque Convention Center, Albuquerque, New Mexico, USA, (2002)

188 M. Shahinpoor, “Metal Hydride Artificial Muscle Systems”,**Proceedings of the First World Congress On Biomimetics and Artificial Muscle (Biomimetics 2002)**, December 9-11, 2002, Albuquerque Convention Center, Albuquerque, New Mexico, USA, (2002)

187 M. Shahinpoor, L.O. Sillerud and S.G. Popa, ”Smart Fiber Optic Magnetometer Array For MEG”, **Proceedings of the First World Congress On Biomimetics and Artificial Muscle (Biomimetics 2002)**, December 9-11, 2002, Albuquerque Convention Center, Albuquerque, New Mexico, USA, (2002)

186 G. Lloyd, K. J. Kim, A. Razani, and M. Shahinpoor, “Investigation of a Solar-Thermal Biomimetic Metal Hydride Actuator”, ***Proc.*** ***Solar 2002 Conference***, Reno, Nevada (2002), Proceedings of Solar Engineering 2002, vol. SED2002-1066, PP. 301-308, (2002)

185 M. Shahinpoor, K. J. Kim, “Electrically Controllable Deformation Memory Effects in Ionic Polymers”,***Proceedings of SPIE 9th Annual International Symposium on Smart Structures and Materials*,** San Diego, California, SPIE Publication No. 4695-13, pp. 85-94, (2002)

184 K. J. Kim and M. Shahinpoor, “Ionic Polymer Metal Composites in Manufacturing Techniques”,***Proceedings of SPIE 9th Annual International Symposium on Smart Structures and Materials*,** San Diego, California, SPIE Publication No. 4695-26, (March, 2002)

183 M. Shahinpoor, K. J. Kim, “Ionic Polymer-Metal Composites: Fundamentals and Phenomenological Modeling,”,***Proceedings of SPIE 9th Annual International Symposium on Smart Structures and Materials***, San Diego, California, SPIE Publication No. 4695-36, (March, 2002)

182 M. Shahinpoor, K. J. Kim, L. O. Sillerud, I. D. Norris, B. R. Mattes, “Electroactive Polyacrylonitrile Nanofibers as Artificial Nanomuscles”,***Proceedings of SPIE 9th Annual International Symposium on Smart Structures and Materials***, San Diego, California, SPIE Publication No. 4695-42, (March, 2002)

181 M. Shahinpoor, M. Ahghar, K. J. Kim and L. O. Sillerud, “Industrial and Medical Applications of Ionic Polymer-Metal Composites as Biomimetic Sensors, Actuators, and Artificial Muscles”,***Proceedings of SPIE 9th Annual International Symposium on Smart Structures and Materials***, San Diego, California, SPIE Publication No. 4695-43, (March, 2002)

180 M. Shahinpoor and R. Alvarez, “Simulation and Control of Iono-Elastic Beam Dynamic Deformation Model”,***Proceedings of SPIE 9th Annual International Symposium on Smart Structures and Materials***, San Diego, California, SPIE Publication No. 4695- 40, (March, 2002)

179 M. Shahinpoor, S.G. Popa, “Recent Technology Development in Contactless Monitoring of the Electromagnetic Activities of the Human Heart and Brain”,***Proceedings of SPIE 9th Annual International Symposium on Smart Structures and Materials***, San Diego, California, SPIE Publication No. 4694-44, (March, 2002)

178 Heino Finkelmann and M. Shahinpoor, “Electrically-Controllable Liquid Crystal Elastomer-Graphite Composites Artificial Muscles”,***Proceedings of SPIE 9th Annual International Symposium on Smart Structures and Materials***, San Diego, California, SPIE Publication No. 4695-53, (March, 2002)

177 M. Shahinpoor, ”Ionic polymer-Conductor Composites (IPCC’s) as Biomimetic Robotic Actuators, Sensors and Artificial Muscles”, ***Proc. 8th Int. Conf. On New Actuators, Actuators 2002***, June 10-12, 2002, Bremen, Germany

176 M. Shahinpoor, “Fundamentals of Ionic Polymer Conductor Composites as Biomimetic Sensors, Soft Actuators and Artificial Muscles-A Review of Recent Findings,”, Keynote Presentation, Soft Actuators and Sensors, ***Proc. Of 14th.US National Congress on Theoretical and Applied Mechanics***, Virginia Tech., June 23-28, 2002

175 M. Shahinpoor, “Mechnoelectric Effects in Ionic Polymers“, Special Presentation in Honor of Professor Millard F. Beatty, Contemporary Issues in Mechanics Special Symposium, ***Proc. of 14th US National Congress on Theoretical and Applied Mechanics***, Virginia Tech., June 23-28, 2002

174 M. Shahinpoor, ”Electrically Controllable Deformation In Ionic Polymer Metal Composite Actuators”, ***Proc. of ASME 2002 International Mechanical Engineering Congress & Exhibition***, New Orleans, Louisiana, November 17-22, MECE2002-39037, (2002)

173 B. K. Henderson, S. Lane, M. Shahinpoor, K. J. Kim, and D. Leo, “Evaluation of Ionic Polymer-Metal Composites (IPMC) for Use as Near DC Mechanical Sensors”, ***Proceedings of AIAA Space 2001 Conference and Exposition*,** Albuquerque, New Mexico, AIAA 2001-4600 (August, 2001)

172 M. Shahinpoor, and S.G. Popa, “Smart Interactive Electronic System for Monitoring the Electromagnetic Activities of Biological Systems”, ***Proceedings of SPIE 8th Annual International Symposium on Smart Structures and Materials***, Newport Beach, California, March 3-5, SPIE *Smart Structures and Materials*, Publication No.4328-37, pp.34-45, (2001)

171 K.M. Newbury, K. Mallavarapu, D. Leo, S. Griffin and M. Shahinpoor, “Ionic Polymer Devices for Optical Positioning Systems”, ***Proceedings of AIAA Space 2001 Conference and Exposition*,** Albuquerque, New Mexico, AIAA 2001-4600 (August, 2001)

170 K. J. Kim and M. Shahinpoor, “Development of Three Dimensional Polymeric Artificial Muscles”, ***Proceedings of SPIE 8th Annual International Symposium on Smart Structures and Materials*,** Newport Beach, California, Vol. 4329-(58) (March, 2001)

169 K. J. Kim and M. Shahinpoor, “The Synthesis of Nano-Scale Platinum Particles-Their Role in Performance Improvement of Artificial Muscles and Fuel Cells”, ***Proceedings of SPIE 8th Annual International Symposium on Smart Structures and Materials***, Newport Beach, California, Vol. 4329-(26) (March, 2001)

168 M. Shahinpoor and K. J. Kim, “Fully Dry Solid-State Artificial Muscles Exhibiting Giant Electromechanical Effect”, ***Proceedings of SPIE 8th Annual International Symposium on Smart Structures and Materials***, Newport Beach, California, Vol. 4329-(58) (March, 2001)

167 M. Shahinpoor and K. J. Kim, “Novel Ionic Polymeric Hydraulic Actuators”, ***Proceedings of SPIE 8th Annual International Symposium on Smart Structures and Materials***, Newport Beach, California, Vol. 4329-(23) (March, 2001)

166 M. Shahinpoor and K. J. Kim, “A Novel Physically-Loaded and Interlocked Electrode Developed for Ionic Polymer-Metal Composites (IPMCs),”***Proceedings of SPIE 8th Annual International Symposium on Smart Structures and Materials***, Newport Beach, California, Vol. 4329-(24) (March, 2001)

165 M. Shahinpoor and K. J. Kim, “A Mega-Power Metal Hydride Anthropomorphic Biorobotic Actuator”,***Proceedings of SPIE 8th Annual International Symposium on Smart Structures and Materials*,** Newport Beach, California, Vol. 4327-(18) (March, 2001)

164 M. Shahinpoor and K. J. Kim, “Design, Development, and Testing of a Multi-Fingered Mammalian Heart Compression/Assist Device Equipped with IPMC”, ***Proceedings of SPIE 8th Annual International Symposium on Smart Structures and Materials***, Newport Beach, California, Vol. 4329-(53) (March, 2001)

163 M. Shahinpoor and K. J. Kim, “Nano and Micro Sensors, Actuators and Artificial Muscles Made with Ionic Polymeric Conductive Composites,”,***Proceedings of NanoSpace2001,International Conference, Exploring Interdisciplinary Frontiers In Integrated Nano/Microtechnology for Space and Biomedical Applications****, March 13-16, Houston Moody Gardens, (2001)*

162 M. Shahinpoor, K. J. Kim, S. Griffin, and D. Leo, “Sensing Capabilities of Ionic Polymer-Metal Composites”,***Proceedings of SPIE 8th Annual International Symposium on Smart Structures and Materials***, Newport Beach, California, Vol. 4329-(28), March, (2001)

161 M. Shahinpoor," Electrically-Activated Artificial Muscles Made With Liquid Crystal Elastomers", ***Proceedings of SPIE 7th International Symposium on Smart Structures and Materials***, Newport Beach, California, SPIE Smart Materials and Structures Publication No. SPIE 3987-27, pp. 187-192, (2000)

160 M. Shahinpoor, "Electromechanical Modeling of Ionic Polymer-Conductive Composite (IPCC) Artificial Muscles", ***Proceedings of SPIE 7th International Symposium on Smart Structures and Materials*,** Newport Beach, California, SPIE Smart Materials and Structures Publication No. SPIE 3984-37, pp. 310-320, (2000)

159 M. Shahinpoor, ”Potential Applications of Electroactive Polymer Sensors and Actuators in MEMS Technologies”, ***Proceedings of SPIE’s 2000 Symposium on Smart Materials & MEMS***, December 13-15, Melbourne, Australia, SPIE Publication No. 4234-40, pp. 450-459, (2000)

158 M. Shahinpoor, "Electromechanical Modeling of Ionic Polymer-Conductive Composite (IPCC) Artificial Muscles", ***Proceedings of SPIE 7th International Symposium on Smart Structures and Materials*,** Newport Beach, California, SPIE Smart Materials and Structures***,*** Publication No. SPIE 3984-37, pp. 310-320, (2000)

157 S.G. Popa and M. Shahinpoor, "Evolution of Material Intelligence and Survival Strategies Based On Matter, Energy and Geometry", ***Proceedings of SPIE 7th International Symposium on Smart Structures and Materials***, Newport Beach, California, SPIE Smart Materials and Structures, Publication No. SPIE 3984-35, pp. 234-243, (2000)

156 M. Shahinpoor, K. J. Kim, and H. B. Schreyer, “Artificial Sarcomere and Muscle Made with Conductive Polyacrylonitrile (C-PAN) Fiber Bundles”, ***Proceedings of SPIE 7th International Symposium on Smart Structures and Materials***, Newport Beach, California, Vol. 3687, pp. 243-251 (March, 2000)

155 M. Shahinpoor and K. J. Kim, “Effects Counter-ions on the Performance of IPMC's”, ***Proceedings of SPIE 7th International Symposium on Smart Structures and Materials***, Newport Beach, California, 3687, pp. 110-120 (March, 2000)

154 K. J. Kim, M. Shahinpoor, and A. Razani, “Preparation of IPMCs for Use in Fuel Cells, Electrolysis, and Hydrogen Sensors”, ***Proceedings of SPIE 7th International Symposium on Smart Structures and Materials***, Newport Beach, California, 3687, pp. 311-320 (March, 2000)

153 M. Shahinpoor, "Electro-Mechanics of Iono-Elastic Beams as Electrically-Controllable Artificial Muscles", ***Proc. SPIE Smart Materials and Structures Conference***, March 1-5, 1999, New Port Beach, California, Publication No. SPIE 3669-12, pp. 109-121, (1999)

152 H. Brett Schreyer, Mohsen Shahinpoor, Kwang Kim, "Electrical Activation of PAN-Pt Artificial Muscles" , ***Proceedings*** ***SPIE Smart Materials and Structures Conference***, March 1-5, 1999, New Port Beach, California, Publication No. SPIE 3669-19, pp. 192-198. (1999)

151 A. Keshavarzi, M. Shahinpoor, K. J. Kim, and J. Lantz, "Blood Pressure, Pulse Rate, and Rhythm Measurement Using Ionic Polymer-Metal CompositesSensors**", *Proc. SPIE Smart Materials and Structures Conference***, March 1-5, 1999, New Port Beach, California, Publication No. SPIE 3669-36, pp. 369-376, (1999)

150 L. Ferrara, M. Jaeger, A. Keshavarzi, M. Shahinpoo and E. Benzel, “The Use of Trained Shape Memory Alloy Fixtures in Spinal Instrumentation for the Correction of Spinal Deformities”, Presented at the **Congress of Neurological Surgeons Annual Meeting (poster 368)**. Boston, MA, November 1999

149 L. Ferrara, M. Shahinpoor, K. J. Kim, B. Schreyer, A. Keshavarzi, E. Benzel and Jeffrey Lantz" Use of Ionic Polymer-Metal Composites (IPMCs) As A Pressure Transducer in the Human Spine", ***Proc. SPIE Smart Materials and Structures Conference***, March 1-5, 1999, New Port Beach, California, Publication No. SPIE 3669-45, pp. 394-401, (1999)

148 Mohsen Shahinpoor & David R. Martinez, "Smart Temperature Sensors for Food and Pharmaceutical Products", ***Proc. SPIE Smart Materials and Structures Conference***, March 1-5, 1999, New Port Beach, California, Publication No. SPIE 3674-12, pp. 127-133, (1999)

147 R. Lumia and M. Shahinpoor, "Microgripper Design Using Electro-Active Polymers", ***Proc. SPIE Smart Materials and Structures Conference***, March 1-5, 1999, New Port Beach, California, Publication No. SPIE 3669-30, pp. 322-329, (1999)

146 T. Rashid and M. Shahinpoor, "Force Optimization of Ionic Polymeric Platinum Composite Artificial Muscles by Means of an Orthogonal Array Manufacturing Method", ***Proc. SPIE Smart Materials and Structures Conference***, March 1-5, 1999, New Port Beach, California, Publication No. SPIE 3669-28, pp. 289-298, (1999)

144 K.J. Kim, M. Shahinpoor and R. Razani, "Electro-Active Polymer Materials for Solid Polymer Fuel Cells", ***Proceedings of SPIE/Smart Structures and Materials/Electroactive Polymer Actuators and Devices,*** March 1-5, 1999, New Port Beach, California, Publication No. SPIE 3669-42, pp. 385-393, (1999)

143 K.J. Kim, and M. Shahinpoor, "Effect of the Surface-Electrode Resistance on the Actuation of the Ionic Polymer-Metal Composite (IPMC) Artificial Muscles", ***Proceedings of SPIE/Smart Structures and Materials/Electroactive Polymer Actuators and Devices***, Newport Beach, California, Vol. 3669-43, pp. 308-319, (1999)

142 Y. Bar-Cohen, S.P. Leary, M. Shahinpoor, J.O. Simpson and J. Smith, "Flexible Low- Mass Devices and Mechanisms Actuated by Electro-Active Polymers", ***Proc. SPIE Smart Materials and Structures Conference***, March 1-5, 1999, New Port Beach, California, Publication No. SPIE 3669-38, pp. 51-56, (1999)

141 Y. Bar-Cohen, S.P. Leary, M. Shahinpoor, J.O. Simpson and J. Smith, "Electro-Active Polymer (EAP) Actuators for Planetary Applications", ***Proc. SPIE Smart Materials and Structures Conference,*** March 1-5,1999, New Port Beach, California, Publication No. SPIE 3669-05, pp.57-63, (1999)

140 S.P. Leary, M. Shahinpoor, and Y. Bar-Cohen, "Equivalent Circuit of Ionic Polymeric Metal Composites", ***Proc. SPIE Smart Materials and Structures Conference***, March 1-5, 1999, New Port Beach, California, Publication No. SPIE 3669-09, pp. 64-68, (1999)

139 C. Liu, M. Shahinpoor, and Y. Bar-Cohen, "Scaling Laws of Micro-Actuators and Potential Applications of Electro-Active Polymers in MEMS ", ***Proc. SPIE Smart Materials and Structures Conference***, March 1-5, 1999, New Port Beach, California, Publication No. SPIE 3669-33, pp. 69-74, (1999)

138 M. Shahinpoor, "Ionic Polymer Metal Composite As Biomimetic Sensors and Actuators", ***Proc. 44th Int. SAMPE Symposium***, Edited by: Dr. Leslie J. Cohen, Jerome, L. Bauer and William E. Davis, Published by SAMPE, pp. 1950-1960, May 23-27, Long Beach, California, (1999)

137 K. Firoozbakhsh, M. Shahinpoor and M. Shavandi, "Mathematical Modeling of Ionic Interactions and Deformation in Ionic Polymeric Metal Composite Artificial Muscles", ***Proc. SPIE Smart Materials and Structures Conference***, March 3-5, 1998, San Diego, California Publication No. SPIE 3323-66, (1998)

136 K. Salehpoor, M. Shahinpoor, and A. Razani, "Role of Ion Transport in Dynamic Sensing and Actuation of Ionic Polymeric Platinum Composite Artificial Muscles", ***Proc. SPIE Smart Materials and Structures Conference***, March 3-5, 1998, San Diego, California, Publication No. SPIE 3330-09, (1998)

135 M. Shahinpoor, Y. Bar-Cohen, T. Xue, J. O.Simpson, and J. Smith, "Ionic Polymer-Metal Composites (IPMC) as Biomimetic Sensors and Actuators", ***Proceedings of SPIE's 5th Annual International Symposium on Smart Structures and Materials***, 1–5 March, 1998, San Diego, California. Paper No. 3324-27, (1998)

134 G. Wang and M. Shahinpoor, "Design of A Knee and Leg Muscle Exerciser Using A Shape Memory Alloy Rotary Actuator", ***Proc. SPIE Smart Materials and Structures Conference***, March 3-5, 1998, San Diego, California, Publication No. SPIE 3324-29, (1998)

133 Y. Bar-Cohen, T. Xue, M. Shahinpoor, J. Simpson, J. Smith, " Flexible Low-Mass Robotic Arm Actuated by Electroactive Polymers (EAP)", ***Proc. SPIE Smart Materials and Structures Conference***, March 3-5, 1998, San Diego, California, Publication No. SPIE 3329-07, (1998)

132 Y. Bar-Cohen, T. Xue, M. Shahinpoor, J. Simpson and J. Smith, "Flexible, Low-Mass Robotic Arm Actuated by Electroactive Polymers and Operated Equivalently to Human Arm and Hand",***Proc. Space'98-Robotics'98 Conference, Third International Conference And Exposition on Robotics for Challenging Environments,*** April 26-30, 1998, Albuquerque, New Mexico American Society of Civil Engineers, ASCE Publication, edited by L.A. Demsetz, R.H. Byrne and J.P. Weyzel , April (1998)

131 M. Shahinpoor, Y. Bar-Cohen, T. Xue, J. Simpson, J. Smith, "Some Experimental Results on Ion- Exchange Polymer-Metal Composites as Biomimetic Sensors and Actuators", ***Proc. SPIE Smart Materials and Structures Conference***, March 3-5, 1998, San Diego, California, Publication No. SPIE 3324-37, (1998)

130 Y. Bar-Cohen, T. Xue, M. Shahinpoor, K. Salehpoor, J. Simpson, J. Smith, and P. Willis, "Low-Mass Muscle Actuators Using Electroactive Polymers (EAP)", ***Proc. SPIE Smart Materials and Structures Conference***, March 3-5, 1998, San Diego, California Publication No. SPIE 3324-32, (1998)

129 M. Shahinpoor and M. Mojarrad,”Ion-Exchange-Metal Composite Sensor Films”, ***Proceedings of 1997 SPIE Smart Materials and Structures Conference***, vol. 3042-10, San Diego, California, March (1997)

128 K. Salehpoor, M. Shahinpoor, and M. Mojarrad, “Some Experimental Results on the Dynamic Performance of PAN Muscles”, ***Proceedings of 1997 SPIE Smart Materials and Structures Conference***, vol. 3040, pp. 169-173, San Diego, California, March (1997)

127 K. Salehpoor, M. Shahinpoor, and M. Mojarrad, “Linear and Platform Type Robotic Actuators made from Ion-Exchange Membrane-Metal Composites”, ***Proceedings of 1997 SPIE Smart Materials and Structures Conference***, vol. 3040, pp. 192-198, San Diego, California, March (1997)

126 M. Shahinpoor and M. Mojarrad, ”Electrically-Induced large Amplitude Vibration and Resonance Characteristics of Ionic Polymeric Membrane-Metal Composites-II”, ***Proceedings of 1997 SPIE Smart Materials and Structures Conference***, vol. 3041-76, San Diego, California, March (1997)

125 M. Shahinpoor, M. Mojarrad, and K. Salehpoor, “Electrically Induced Large Amplitude Vibration and Resonance Characteristics of Ionic Polymeric Membrane-Metal Composites-II”, ***Proceedings of 1997 SPIE Smart Materials and Structures Conference***, Vol. 3041, pp. 829-838, San Diego, California, March (1997)

124 M. Shahinpoor, M. Mojarrad, and K. Salehpoor, “Electrically Induced Large Amplitude Vibration and Resonance Characteristics of Ionic Polymeric Membrane-Metal Composites Artificial Muscles”, ***Proceedings of 1997 SPIE Smart Materials and Structures Conference***, Vol. 3041, San Diego, California, March (1997)

123 Shahinpoor, M., "Heart-Assist Devices Equipped with Ionic Polymeric Noble Metal Composites (IPNMC)", ***Proc. First International Symposium on Advanced Bio-Materials (ISAB)***, October 2-5, 1997, Montreal, Canada, (1997)

122 Shahinpoor, M., "Heart-Assist Devices Equipped with Ionic Polymeric Metal Composites (IPMC)", ***Proc. ASME International Mechanical Engineering Conference & Exposition***, November 16-21, 1997, Dallas, Texas (1997)

121 Shahinpoor, M. and J. Lantz, "Life Cycle Analysis and Robotic Recycling of Fluorescent Lamps", ***Proc. ISEE'97, International Symposium on Environmental Engineering***, Sept 28-Oct. 1, 1997, Kyongji, Korea, (1997)

120 Shahinpoor, M., "Ion-Exchange Polymer-Metal Composites as Biomimetic Sensors and Actuators: Artificial Muscles", ***Proc., Los Alamos National Laboratories, Workshop on Self-Assembling and Biomimetic Materials***, December 15-17, (1997), Los Alamos, NM (1997)

119 M. Shahinpoor, "Intelligent Materials and Structures Revisited", ***Proc. SPIE 1996 North American Conference on Smart Structures and Materials***, February 27-29, 1996, San Diego, California, vol. 2716, paper no. 33, (1996)

118 M. Mojarrad and M. Shahinpoor "Noiseless Propulsion for Swimming Robotic Structures Using Polyelectrolyte Ion-Exchange Membranes”, ***Proc. SPIE 1996 North American Conference on Smart Structures and Materials***, February 27-29, 1996, San Diego, California, vol. 2716, paper no. 27, (1996)

117 K. Salehpoor, M. Shahinpoor and M. Mojarrad, "Electrically Controllable Ionic Polymeric Gels As Adaptive Lenses", ***Proc. SPIE 1996 North American Conference on Smart Structures and Materials***, February 27-29, 1996, San Diego, California, vol. 2716, paper no. 18, (1996)

116 K. Salehpoor, M. Shahinpoor and M. Mojarrad, "Electrically Controllable Artificial PAN Muscles", ***Proc. SPIE 1996 North American Conference on Smart Structures and Materials***, February 27-29, 1996, San Diego, California, vol. 2716, paper no. 07, (1996)

115 M. Shahinpoor, M., “Multifingered Grabbers as Smart Structures for Robotic Applications”, ***Proc. SPIE 2779, 3rd International Conference on Intelligent Materials (ICIM’96) and 3rd European Conference on Smart Structures and Materials*,** pp: 1000-10010, Editors; Pierre F. Gobin; Jacques Tatibouet, Lyon, France, June 3, (1996)

114 M. Shahinpoor and M. Mojarrad, "Ion-Exchange Membrane-Platinum Composites As Electrically Controllable Artificial Muscles", ***Proc. 1996, SPIE 2779, Third International Conference on Intelligent Materials,*** ICIM'96, and Third European Conference on Smart Structures and Materials, edited by: Pierre F. Gobin; Jacques Tatibouet, pp.1012-1017, June 1996, Lyon, France, (1996)

113 M. Shahinpoor, "The Ionic Flexogelectric Effect", ***Proc. 1996, SPIE 2779, Third International Conference on Intelligent Materials, ICIM'96, and Third European Conference on Smart Structures and Materials***, edited by: Pierre F. Gobin; Jacques Tatibouet, pp. 1006-1011, June 1996, Lyon, France, (1996)

112 G. Wang and M. Shahinpoor, “New Design for A Bending Muscle Actuator Made With Shape memory Alloy Contractile Wires”, ***Proc. SPIE 1996 North American Conference on Smart Structures and Materials***, February 27-29, 1996, San Diego, California, vol. 2715, paper no. 06, (1996)

111 G. Wang and M. Shahinpoor, “New Design for A Rotatory Joint Actuator Made With Shape Memory Alloy Contractile Wires”, ***Proc. SPIE 1996 North American Conference on Smart Structures and Materials***, February 27-29, 1996, San Diego, California, vol. 2715, paper no. 42, (1996)

110 M. Shahinpoor and Y. Osada, "Electrically-Induced Dynamic Contraction of Ionic Polymeric Gels", ***Proc. SPIE 1995 North American Conference on Smart Structures and Materials***, February 28-March 2, 1995, San Diego, California, vol. 2441, paper no. 46, pp. 91-98, (1995)

109 M. Shahinpoor, "A New Effect in Ionic Polymeric Gels: The Ionic "Flexogelectric Effect", ***Proc. SPIE 1995 North American Conference on Smart Structures and Materials***, February 28-March 2, 1995, san Diego, California, vol. 2441, paper no. 05, pp. 42-53, (1995)

108 M. Shahinpoor and G. Wang, "Fast Cyclic Solid Phase Transformations in Shape Memory Alloys", ***Proc. SPIE 1995 North American Conference on Smart Structures and Materials***, February 28-March 2, 1995, San Diego, California, vol. 2442, paper no. 34, (1995)

107 M. Shahinpoor and G. Wang, "Design, Modeling and Performance Evaluation of A Novel Large Motion Shape Memory Alloy Actuator", ***Proc. SPIE 1995 North American Conference on Smart Structures and Materials***, February 28-March 2, 1995, San Diego, California, vol. 2447, paper no. 31, (1995)

106 R. Lumia and M. Shahinpoor, "Open Systems in Intelligent Manufacturing", ***Proc. 3rd. International Conference on Environmentally Conscious Design and Manufacturing***, March 12-15, Las Cruces, New Mexico, (1995), ECM Press, Albuquerque, New Mexico (1995)

105 J. H. Mullins and M. Shahinpoor, "Educational Opportunities in Virtual Agile Manufacturing", ***Proc. 2nd Agile Manufacturing Conference***, March 16-17, Albuquerque, New Mexico, ERI Press, (1995)

104 M. Shahinpoor and Y. Osada, "Heart Tissue Replacement with Ionic Polymeric Gels", ***Proc. 1996 ASME Winter Annual Meeting***, San Francisco, California, November 12- 18, (1995)

103 M. Shahinpoor,” Design, Modeling and Fabrication of Micro-Robotic Actuators with Ionic Polymeric Gel and SMA Micro-Muscles”, ***Proc. 1995 ASME Design Engineering Technical Conference***, Boston, MA, September (1995)

102 M. Shahinpoor, "Design and Modeling of A Novel Spring-Loaded Ionic Polymeric Gel Actuator", ***Proc. SPIE 1994 North American Conference on Smart Structures and Materials***, February 94, Orlando, Florida, vol. 2189, paper no. 26, pp.255-264, (1994)

101 M. Shahinpoor, "Microelectro-Mechanics of Ionic Polymeric Gels As Synthetic Robotic Muscles", ***Proc. SPIE 1994 North American Conference on Smart Structures and Materials***, February 94, Orlando, Florida, vol. 2189, paper no. 27,pp.265-274, (1994)

100 M. Shahinpoor, "A Novel Self-Powered pH Indicator Using Ionic Polymeric Gel Muscles", ***Proc. SPIE 1994 North American Conference on Smart Structures and Materials***, February 94, Orlando, Florida, vol. 2189, paper no. 13, pp. 134-142, (1994)

99 M. Shahinpoor, "Design and Modeling Of A Novel Fibrous Shape Memory Alloy (SMA) Actuator", ***Proc. SPIE 1994 North American Conference on Smart Structures and Materials,*** February 94, Orlando, Florida, vol. 2190, paper no. 68, pp.730-738, (1994)

98 M. Shahinpoor, "Design and Modeling of an Active Crawling Robotic Annelid", ***Proc. SPIE 1994 North American Conference on Smart Structures and Materials,*** February 94, Orlando, Florida, vol. 2190, paper no. 69, pp.739-747, (1994)

97 M. Shahinpoor, "Electro-Mechanics of Resilient Contractile Fiber Bundles with Applications To Ionic Polymeric Gel and SMA Robotic Actuators", ***Proc. 1994 IEEE International Conference on Robotics & Automation*** , vol. 2, pp.1502-1508, San Diego, California, May (1994)

96 M. Shahinpoor, “Electro-Thermo-Mechanics of Spring-Loaded Contractile Fiber Bundles with Applications To Ionic Polymeric Gel and SMA Actuators", ***Proc. 1994 Int. Conf. on Intelligent Materials***, ICIM'94, June 1994, Williamsburg, VA, pp. 1105-1116, (1994)

95 M. Shahinpoor, “Active Musculoskeletal Structures Equipped with a Circulatory System and a Network of Ionic Polymeric Gel Muscles", ***Proc. 1994 Int. Conf. on Intelligent Materials***, ICIM'94, June 1994, Williamsburg, VA, pp.1079-1085, (1994)

94 M. Shahinpoor, “Micro-Electro-Mechanics of Ionic Polymeric Gels as Electrically Controlled Artificial Muscles", ***Proc.1994 Int. Conf. on Intelligent Materials***, ICIM'94, June, 1994, Williamsburg, VA, pp. 1095-1104, (1994)

93 M. Shahinpoor, and M.S. Thompson, “The Venus Fly Trap and the Waterwheel Plant As Smart Carnivorous Botanical Structures With Built-In Sensors and Actuators", ***Proc. 1994 Int. Conf. on Intelligent Materials***, ICIM'94, June 1994, Williamsburg, VA, pp.1086-1094, (1994)

92 M. Shahinpoor, “Applications of Smart Materials, Structures and Systems to Free Form Fabrication", ***Proc. 1994 Int. Conf. on Intelligent Mate***rials, ICIM'94, June 1994, Williamsburg, VA, pp. 1067-1078, (1994)

91 M.L. Wang, C. Yan, X. Wang and M. Shahinpoor, “High Sensitivity Fiber Strain Sensor for Infrastructure Monitoring", ***Proc. 1994 Int. Conf. on Intelligent Materials***, ICIM'94, June 1994, Williamsburg, VA, pp.1291-1299, (1994)

90 M. Shahinpoor, and G. Wang, "Electro-Thermo-Mechanics of SMA Fiber Bundles Embedded in An Elastic Medium", ***Recent Advances in Engineering Science, Proc. 31st. Technical Conference of the Society of Engineering Science, Symposium on Active Materials and Smart Structures***, pp. 408-409, Texas A&M University, College Station Texas, October (1994)

89 N.J. Evans, T.J. Ahrens and M. Shahinpoor, "Projectile-Target Mixing In Melted Ejecta Formed During A Hypervelocity Impact Cratering Event", ***Proc. Lunar and Planetary Science Conference, LPSC***, Houston, TX, January, vol.1, pp.401-408, (1993)

88 D. Segalman, W. Witkowski, R. Rao, Doug Adolf and M. Shahinpoor, "Finite Element Simulation of the 2D Collapse of A Polyelectrolyte Gel Disk", ***Proc.1993 SPIE North American Conference on Smart Structures and Materials,*** February 93, Albuquerque, NM, vol. 1916, pp. 14-22, (1993)

87 M. Shahinpoor, "Nonhomogeneous Large Deformation Theory of Ionic Polymeric Gels in Electric and pH Fields", ***Proc.1993 SPIE North American Conference on Smart Structures and Materials***., February 93, Albuquerque, NM, vol. 1916, pp. 40-55, (1993)

86 M. Shahinpoor, "A Relationship Between the Volumetric Strain and pH in Ionic Polymeric Gels", ***Proc.1993 SPIE North American Conference on Smart Structures and Materials***., February 93, Albuquerque, NM, vol. 1916, pp. 416-423, (1993)

85 M. Shahinpoor, "Deployable Fractal Mechanisms As Smart Structures", ***Proc. 1st.ASME-ASCE-SES joint Conference, MEET'N 93***, Charlottesville, VA, June 6-9, pp. 119-126, June (1993)

84 M. Shahinpoor, "Microelectro-Mechanics of Ionic Polymeric Gels As Artificial Muscles For Robotic Applications", ***Proc. 1993 IEEE International Conference on Robotics & Automation***, Atlanta, Georgia, May 93, Vol. 2, pp.380-385, (1993)

83 M. Shahinpoor, "Design and Kinematics of A Novel Robotic Hand", ***Proc. 1993 International Conference on Advanced Mechatronics***, August 93, Tokyo, Japan, vol.1, pp. 266-272, (1993)

82 M. Shahinpoor, “Computational Techniques in Robot Kinematics and Dynamics", ***Proc. International Congress on Computational Methods in Engineering***, May 2-6, 1993, Shiraz University Press, vol. 4, pp. xxiii-xxxiv, (1993)

81 M. Shahinpoor, “Continuum Electro-Mechanics of Ionic Polymeric Gels As Artificial Muscles for Robotic Applications", ***Proc. International Congress on Computational Methods in Engineering***, May 2-6, 1993, Shiraz University Press, vol. 4, pp.211-218, (1993)

80 A. Razani, S. Sohrabpour and M. Shahinpoor," Thermal Modeling of Robotic Handling of Hot Objects", ***Proc. International Congress on Computational Methods in Engineering***, May 2-6, 1993, Shiraz University Press, vol. 2, pp.265-234, (1993)

79 A.A. Tootoonchi and M. Shahinpoor, "Analysis of A Robotic Hand With Two Flexible Fingers", ***Proc. International Congress on Electrical Engineering, ICEE'93***, May 20-24, 1993, Tehran University Press, vol. 1, pp.200-213, (1993)

78 M. Shahinpoor and H. Sabbagh, "Transient Fluid Dynamics Experiments Utilizing A Robot Manipulator Equipped With Sensors And Actuators", ***Proceedings 49th. Meeting of American Physical Society- Div. Fluid Dynamics***, Albuquerque, New Mexico, November 21-23, paper J16, (1993)

77 H. Zohoor and M. Shahinpoor, "Dynamic Analysis of A Compliantly Supported Elastically Deformable Peg in A Hole Assembly", ***Proc. 11th. IASTED Int. Symp. Modeling, Identification and Control***, Innsbruck, Austria, Feb. (1992), pp. 506-509, (1992)

76 M. Shahinpoor, "A Design for an Autonomous Robotic Marine Oil Spill Collector For Environmental Cleanup", ***Proc. Int. Conf. Engng. Applics. Mech.,*** June 1992, Sharif University of Technology Press, vol.1, pp. 230-237, (1992)

75 H. Sabbagh and M. Shahinpoor, "Total Force Experienced By A Two-Link Robotic Arm Moving In A Viscous Medium", ***Proc. Int. Conf. Engng. Applics. Mech***., June 1992, Sharif University of Technology Press, vol.1, pp. 238-246, (1992)

74 M. Ahghar, S. Kassacieh, M. Shahinpoor and J. Mullins, "Management of Information in Manufacturing", ***Proc. Int. Conf. Engng. Applics. Mech***., June 1992, Sharif University of Technology Press, vol.1, pp. 359-365, (1992)

73 A. Razani and M. Shahinpoor," Theoretical Analysis of the Interaction of Robots With A Non-Homogeneous Thermal Field", ***Proc. Int. Conf. Engng. Applics. Mech.,*** June 1992, Sharif University of Technology Press, vol.3, pp. 9-17, (1992)

72 M. Shahinpoor, and H. Zohoor, "Dynamic Analysis of Flexible Peg-in-Hole Insertion for Manufacturing Automation", ***Proc. 14th Conf. on Ideas in Science & Electronics Symp.,*** May 1992, Albuquerque, New Mexico, vol. 1, pp. 142-149, (1992)

71 M. Ahghar, J. Mullins, S. Kassacieh, and M. Shahinpoor, "People, Quality Design and Manufacturing Organizations", ***Proc. 14th Conf. Ideas in Science & Electronics Symp.,*** May 1992, Albuquerque, New Mexico, vol. 1, pp. 136-141, (1992)

70 M. Shahinpoor, "An Introduction to Fractal Robot Manipulators", ***Proc. 14th Conf. on Ideas in Science & Electronics Symp.,*** May 1992, Albuquerque, New Mexico, vol. 1, pp. 150-156, (1992)

69 M. Shahinpoor," Design and Modeling of Ionic Polymeric Gels as Artificial Muscles Used In Smart Structures", ***Proc. 29th. Annual Meeting of Society of Engineering Science Technical Meeting***, La Jolla, California, September 14-16, (1992), pp. 267-268, (1992)

68 R. Rao, W. Witkowski, D. Segalman, D. Adolf and M. Shahinpoor, "Finite Element Analysis of Chemomechanical Polyelectrolytic Gels", ***Proc. 1992 AIChE Conference***, Atlanta, Georgia, Nov., (1992)

67 D. Segalman, W. Witkowski, D. Adolf and M. Shahinpoor, "Numerical Simulation of Dynamic Behavior of Polymeric Gels", ***Proc. 1st. Int. Conf. Intelligent Materials, ICIM'92***, Tsukube, Japan, July, Technomic Publishing Co., pp. 310-313, (1992)

66 N.J Evans, M. Shahinpoor and T.J. Ahrens, "Hypervelocity Impact: Ejecta Velocity, Angle and Composition", ***Proc. 1992 Conference on Large Meteoritic Impact and Planetary Evolution,*** Vol.1, pp. 33-38, Sudbury, Canada, September (1992)

65 N.J. Evans, M. Shahinpoor and T.J. Ahrens, "Ejecta Velocity, Composition and Angular Distribution In A Hypervelocity Impact Cratering Event", ***Proc. Abstracts, American Geological Union, Fall Conference***, No. P31B-7, San Francisco, December (1992)

64 M. Shahinpoor, "A Novel Design for A Hybrid Space Manipulator", ***Proc. SOAR Symp***., Albuquerque, New Mexico, June, (1990),vol.1, pp.15-22,(1991)

63 M. Shahinpoor and Brad Smith, "Deployable Robotic Woven Wire Structures and Joints For Space Applications", ***Proc. SOAR Symp***., Albuquerque, New Mexico, vol.1, pp.159- 166, (1991)

62 H. Zohoor and M. Shahinpoor," Analysis of Dynamic Insertion Type Assembly for Manufacturing Automation", ***Proc. 1991 IEEE Robotics & Automation Conf***., Sacramento, California, vol. 3, pp.2458-2462, April (1991)

61 B.C. Chiou and M. Shahinpoor," Experimental & Theoretical Observation on the Dynamic Stability of A One-Link Force-Controlled Flexible Manipulator", ***Proc. 1991 IEEE Robotics & Automation Conf.***, Sacramento, Calif.,vol.2, pp.1208-1213, April (1991)

60 H. Zohoor and M. Shahinpoor," Analysis of Dynamic Insertion Type Assembly for Manufacturing Automation", ***Proc. 1991 IEEE Robotics & Automation Conf***., vol. 3, pp.2458-2464, (1991)

59 M. Shahinpoor, "Conceptual Design, Kinematics and Dynamics of Swimming Robotic Structures Using Active Polymer Gels", ***Proc. ADPA/AIAA/ASME/SPIE Conf. on Active Materials & Adaptive Structures***, Alexandria, VA, Nov. (1991)

58 D. Segalman, W. Witkowski, D. Adolf and M. Shahinpoor, "Electrically Controlled Polymeric Muscles as Active Materials in Adaptive Structures”, ***Proc. ADPA/AIAA/ASME/SPIE Conf. on Active Materials & Adaptive Structures***, Alexandria, Va., Nov., (1991)

57 S. L. Hingorani-Norenberg, A. Razani and M. Shahinpoor," Compaction of TiH1.65/KCLO4 Pyrotechnic Powder during Confined Burn", ***Proc. 15th Int. Pyrotechnic Conf***., pp. 403-419, IIT Research Institute, (1990)

56 A. Razani, M. Shahinpoor and S.L. Hingorani-Norenberg, "A Semi-Analytical Model for Pressure Time History of Granular Pyrotechnic Materials In A Closed System", ***Proc. 15th. Int. Pyrotech. Conf***., pp. 799-813, IIT Research Instate, (1990)

55 B. C. Chiou and M. Shahinpoor," Stability Consideration for A Two-Link Force-Controlled Flexible Manipulator", ***Proc. IEEE Robotics & Automation Conf***., vol.1, pp.345-354, (1990)

54 B.C. Chiou and M. Shahinpoor, "The Effect of Joint and Link Flexibility On The Dynamic Stability of Two-Link Force-Controlled Manipulators", ***Proc. IEEE Robotics and Automation Conf***., vol.1, pp.398-403, May 1989, Scottsdale, Az., (1989)

53 H. Sabbagh and M. Shahinpoor, "Dynamics of A Two-Link Robot Manipulator Moving In A Viscous Medium", ***IEEE-ISE, Symp***., Albq., NM., (1989)

52 A. Razani, M. Shahinpoor and S.L. Hingorani-Norenberg, "Consequence of Condensed-Phase Formation In Transient Burning of TiHx/KCLO4 In A Closed System”,  ***Proceedings 14th. Int. Pyrotech. Conf***., vol.1, pp. 443-453, (1989)

51 J.R. Asay, C.H. Konrad, C.A. Hall, M. Shahinpoor and R.H. Hickman, "Continuous Measurements of In-Bore Projectile Velocity", ***Proc. 4th Symp. on Electromagnetic Launch-Technology***, April 12-14, Austin, TX, (1988)

50 R.S. Hawke, A.R. Susoeff, J.R. Asay, J. Balk, C.A. Hall, C. H. Konrad, M. McDonald, K. Schuler, G. Wellman, M. Shahinpoor and G. Sauve, "Starfire: Hypervelocity Raillaunchers for High Pressure Research", ***Proc. 4th., Symp. on Electromagnetic Launch Technology,*** April 12-14, Austin Texas, (1988)

49 M. Shahinpoor and R.S. Hawke, "Analytical Solutions to Dynamic Equations of Plasma Armature Raillaunchers", ***Proc. 4th Symp. on Electromagnetic Launch Technology***, April12-14, Austin, Texas, (1988)

48 M. Shahinpoor, J.R. Asay, C.H. Konrad and C.H. Hall, "Use of A Two-Stage Light-Gas Gun As An Injector For Electro-Magnetic Railguns", ***Proc. 4th Symp. on Electromagnetic Launch Technology,*** April 12-14, Austin, Texas, (1988)

47 M. Shahinpoor and A. Akbarzadeh, "Analysis of A Two-Fingered Manufacturing Robotic Hand For Fine Automation Processes", ***Proc. IEEE Symp. on Robotics and Automation,*** April 24-28, Philadelphia, PA, pp. 333-341, (1988)

46 M.C. Baker, B.D. Barret, W.C. Nunnally, N. Roderick, M. Shahinpoor and J.E. Thompson, "Development of Railgun Diagnostics", ***Proc. XIIIth. Int. Symp. on Discharges and Electrical Insulation in Vacuum***, June 27-30, Paris, France, (1988)

45 A. Razani and M. Shahinpoor, "Thermodynamic Analysis of the TiHx/KCLO4 Combustion in a Closed System", ***Proc. 13th Int. Pyrotechnic Conference***, Grand Junction, CO., pp.915-930, July (1988)

44 A. Razani and M. Shahinpoor, "Transient Burning Analysis of Pyrotechnic Materials in a Closed Container", ***Proc. 13th Int. Pyrotechnic Conference***, Grand Junction, CO., pp. 931-948, July (1988)

43 S.L.Hingorani-Norenberg, M. Shahinpoor and A. Razani, "Preliminary Experimental Studies on the Burn Rate Behavior of TiH1.65/KCLO4", ***Proc. 19th. FPS Powder Science and Technology Symp***., Santa Clara, Calif.,19-22 July,(1988)

42 A. Razani, M. Shahinpoor and S.L.Hingorani-Norenberg," Burn Rate Analysis of Porous Pyrotechnic Powders", ***Proc. 19th FPS Symposium on Powder Science and Technology***, Santa Clara, Calif., 19-22 July (1988)

41 Y.T.Kim, M. Jamshidi, and M. Shahinpoor, "Near Optimum Control of A Robot Manipulator", ***Proc. IFAC 10th. World Congress***, Munich, July 27-31, pp.164-171, (1987)

40 M. Shahinpoor, A. Razani and Y. Chang, "An Improved Model for Calculation of Transient Temperature Distribution of a Robotic Hand Moving in a Non-Homogeneous Field", ***Proceedings, 9th IASTED International Symposium, Robotics and Automation***, Santa Barbara, California, pp. 39-43, May (1987)

39 M. Shahinpoor and A. Akbarzadeh, "Analysis of a Two-Fingered Manufacturing Robotic Hand for Fine Automation Processes", ***Proceedings of IEEE-ISE International Symposium***, Albuquerque, NM, May pp. 81-91, (1987)

38 M. Shahinpoor, Y.T. Chang and A. Razani, "A Model for Thermal Analysis of a Robot Hand Moving in a Non-Homogeneous Temperature Field", ***Proceedings, IEEE-ISE International Symposium,*** Albuquerque, NM, pp. 121-134, May (1987).

37 M. Shahinpoor and A. Akbarzadeh, "Design, Construction and Modeling of a Six Axis Robot Manipulator Equipped with Vision and Voice,", ***Proc. 9th IASTED International Symposium Robotics and Automation***, Santa Barbara, California, pp. 161-165, May (1987)

36 M. Shahinpoor, J.R. Asay, W.R. Dixon and R.S. Hawke, "Effects of Barrel Joints on Hypervelocity Projectiles", ***Bull. Am. Phys. Soc., APS Topical Conference on Shock Waves in Condensed Matter***, July (1987)

35 M. Shahinpoor, H. Seraji and M. Jamshidi, "Perfect Output Control with Application to Robotics", ***Proceedings IEEE Conference: Systems, Man and Cybernetics***, Atlanta, Georgia, pp. 313-318, October (1986)

34 M. Shahinpoor, "Fundamentals of Robot Engineering - A Brief Tutorial", ***Proc. ISE Symp-IEEE-ISE***, Vol. 1, pp. 49-51, (1986)

33 M. Shahinpoor and A. Meghdari, "Combined Flexural-Joint Stiffness Matrix and the Elastic Deformation of a Serve-Controlled Two-Link Robot Manipulator", ***Proc. Abs. 10th US Appl. Mech. Conf***., Austin, Texas, pp. F6-F16,, June (1986)

32 M. Shahinpoor, "Effective Burning Rate and Web Size of a Powder Mixture for a Two-Stage Hypervelocity Launcher", ***Proc. Int. Pyrotech. Conf***., Vail, Colorado, pp. 517-522, July (1986)

31 M. Shahinpoor and A. Razani, "Deflagration Velocity in Solid Propellants and Pyrotechnic Materials", ***Proc. Fine Powder Society's Annual Conference and Int. Symposium***, San Francisco, California, pp. 21-24, July-August (1986)

30 H. Seraji, M. Shahinpoor and M. Jamshidi, "Perfect Output Control with Application to Robotics", ***Proc. IEEE Conf. Systems, Man and Cybernetics***, Atlanta, Georgia, pp. 33-38, October (1986)

29 M. Shahinpoor and M. Jamshidi, "An Overview of Robot Engineering Education at the University of New Mexico", ***Proc. Int. Symp. on Robotics, Modeling, Education and Control***, Albuquerque, New Mexico, pp. 351-354, November (1986)

28 M. Shahinpoor, H.A. Kalhor and M. Jamshidi, "On Magnetically Actuated Robotic Tensor Arms", ***Proc. Int. Symp. on Robotics Modeling, Education and Control***, Albuquerque, New Mexico, pp. 517-522, November (1986)

27 H. Seraji, M. Shahinpoor, and M. Jamshidi, "Perfect Tracking with Application to Robotics", ***Proc. of 7th IASTED Int. Symp. Robotics & Automation***, Lugano, Switzerland, June, pp. 71-79, (l985)

26 M. Jamshidi, H. Seraji and M. Shahinpoor, "Stabilization and Regulation of Two-Link Robots", ***Proc. IEE Conf. Systems, Man and Cybernetics***, Tucson, Arizona, pp. 1055- 1062, November (1985)

25 M. Shahinpoor, "Turbulent Modeling for Particulate Shear Flows", ***Proc.15th Annual Conference Fine Particle Society***, Orlando, FL, p. 82-84, (l984)

24 M. Shahinpoor, "Determination of the Frequency Distributions of Coordination Number and Contact Force Intensity in a Randomly Packed Bed of Equal Spheres by a Titration Technique", ***Proc.2lst Annual Conference Soc. Engrg. Sci***., Blacksburg, VA, pp. l54-l55, (l984)

23 M. Shahinpoor, "A Turbulent Model for the Rapid Flow of Granular Materials", ***Proc. 2lst Annual Conf. Society of Engineering. Sci*ence,** Blacksburg, VA, pp. 325-328, (l984)

22 M. Shahinpoor, "Frequency Distribution of Voids in Mono-Granular Layers", ***Proc. 2nd US-Japan Seminar***, August l982, Cornell Univ., ed. J.T. Jenkins, Elsevier Publishing Co., pp. 173-184, (l983)

21 J.T. Jenkins and M. Shahinpoor, "Macroscopic Phase Transitions in Two-Dimensional Granular Materials", ***Proc. 2nd US-Japan Seminar***, August l982, Cornell Univ., ed. J.T. Jenkins, Elsevier Publishing Co., pp. 112-127, (l983)

20 M. Shahinpoor, "Oscillatory Densification of Fully Fluidized Granular Materials Undergoing Cyclic Shear Loading", ***Proc. 20th Annual Conf. SESI***, pp. l64-l65, August, (l983)

19 M. Shahinpoor, "Frequency Distribution of Contact Angles in Random Monogranular Layers", ***Proc. 20th Annual Conf. SESI***, pp. l72-l73, August, (l983)

18 M. Shahinpoor, "Error Estimation in Stereological Determination of Particle Size Distribution", ***Proc. 6th Int. Congress on Stereology***, Gainesville, FL, p.3-13, October, (l983)

17 M. Shahinpoor, "Frequency Distribution of Contact Angles in Random Packing of Granular Materials", ***Proc. Fine Particle Society Pacific Region Meeting***, Honolulu, HI, pp. 36l-365, August, (l983), (presented by Prof. H. Shen)

16 M. Shahinpoor, "Phase Transition in Two-Dimensional Aggregates of Granular Materials", ***Proc. of Twenty-Sixth Meeting Society for Natural Philosophy***, Brown University, Providence, RI, November, pp. 31-37, (l983)

15 M. Shahinpoor, "Solid-Liquid Phase Transition in Two-Dimensional Granular Materials", ***Proc. 9th U.S. Nat'l Cong. Appl. Mech***., Cornell Univ., June, (l982)

14 M. Shahinpoor and G. Ahmadi, "Stable Granular Rings in Weak Gravitational Fields", ***Proc. 19th Annual Meeting of Soc. Engrg. Sci***., Univ. Missouri-Rolla, Rolla, MO, October, pp. 13-18, (l982)

13 G. Ahmadi and M. Shahinpoor, "New Evolutionary Equations for Fluctuations in Rapid Granular Flows", ***Proc. 19th Annual Meeting of Soc. Engrg. Sci***., Univ. of Missouri-Rolla, Rolla, MO, October, pp. 124-131, (l982)

12 M. Shahinpoor, "Mathematical Modeling of the Future for Complex Systems" ***Proc. of*** ***Third Int. Conf. on Mathematical Modeling***,", USC, Los Angeles, July, (l98l)

11 M. Shahinpoor and D.J. Wells, "Engineering Diagnostics and Trouble Shooting: A New Use for Fuzzy Logic", ***Proc. of ASME Failure Prevention and Reliability Conf***., Hartford, CT, Sept., pp. 136-144, (l98l)

10 M. Shahinpoor, "An Allowable Templating Theory for Solid-Liquid Phase Transition in 2-D Granular Materials", ***Proc. l7th Annual SES Conf***., Georgia Inst. of Tech., Atlanta, pp. 243-256, Dec., (l980)

9 M. Shahinpoor, "Thermodynamics of Shear Deformation of Granular Materials" ***Proc.*** ***23rd Meeting of Society for Natural Philosophy***, Univ. of Missouri-Rolla, Rolla, MO, Nov., (l980)

8 M. Shahinpoor, "A Method for Preventing Coastal Erosion", ***Proceedings* of first *Engineering Congress***, Pahlavi University, Shiraz, (in Persian), Jan., pp. 123-134, (l978)

7 M. Shahinpoor and A. Akbarzadeh, "Study of Surface Water Circulation in the Persian Gulf Area", ***Proceedings*** ***first Engineering Congress***, Pahlavi University, Shiraz, (in Persian), Jan., pp. 135-144, (l978)

6 M. Shahinpoor, "Thermodynamics of Polar Gases,", ***Proceedings 3rd Int. Congress of Chemical Engineering***, vol. l, pp. l-l5, Pahlavi University, Shiraz, Iran, Nov., (l977)

5 M. Shahinpoor, "On Underground Energy Release Experiments and Subsequent Utilization of Release Energy: A Summary", ***Proc. lst Int. Cong. Mech. Engrg***., vol. l, pp. 4-28, (l975)

4 M. Shahinpoor, "An Internal Rotory Phenomenon in Cholesteric Liquid Crystals**", Proc. First Int. Cong. Mech. Engrg.,** vol. l, pp. 254-260, (l975)

3 M. Shahinpoor, "Effect of a Magnetic Field on the Viscosity of Ferromagnetic Colloids", ***Proc. 49th Nat. Colloids Symp***., Am. Chem. Soc., Potsdam, NY, June, pp. 345-352, (l975)

2 M. Shahinpoor, "Quasi-Equilibrated Motions of Incompressible Micropolar Media", ***Proc. lst. Int. Cong. Civil Engrg & Engrg Mech***., vol. l, pp. 306-3l7, (l972)

1 M. Shahinpoor, "Exact Solutions of a Family of Parabolic Partial Differential Equations", ***Proc. 3rd National Math. Cong*.**, Tehran, Iran, vol. 2, pp. 243-247, (l972)

***13. Summary of Academic Services & Achievements***

**1-Over 49 years of dedicated teaching of engineering courses to over 5800 students;**

**2-Total of 23 Academic Awards and Honors, including three teaching excellence awards and four research excellence awards;**

**3-Over $15m in research and academic funding;**

**4-Some 244 refereed journal, book chapters and encyclopedia publications,85 books and edited volumes publications, 255 conference proceedings publications and 67 patents, patent pending and published patent applications.**

**5-Responsible for the establishment of 17 academic educational and research laboratories and centers;**

**6- Serving as Academic Department Chair Three Times and As Associate Dean of Engineering Two Times;**

**7-Achieving peer recognition to become Fellow of ASME (American Society of Mechanical Engineers), Fellow of IOP (Institute of Physics) and Fellow of RSC (Royal Society of Chemistry) and Fellow of the National Academy of Inventors (NAI)**

**8-Achieving peer recognition to become a member of NY Academy of Sciences;**

**9-Advising and completing some 75 Masters Students;**

**10-Advising and completing some 30 Ph.D. (Doctoral) students;**

**11-Helping establish a high technology company (Environmental Robots Incorporated) to become the world’s leader in manufacturing products involving nano composites, distributed nanosensors, nanoactuators, nanotransducers and artificial muscles, intelligent biomedical products, smart medical implants, prostheses and orthoses and ionic polymeric science kits;**

**12-Achieving peer recognition to be appointed as endowed chair professor three times; Halliburton Chair Professor of CAD/CAM and Robotics at University of New Mexico, Regents Chair Professor at University of New Mexico and Richard C. Hill Professor at University of Maine. Induction in 2008, as a distinguished member of the prestigious Francis Crowe Society. Distinguished induction as a Fellow of the National Academy of Inventors (Induction in April 2016 in the presence of many dignitaries including Chief of the White House Office of Science and Technology, President of the National Academy of Inventors, President of the National Academy of Medicine and Commissionaire of US patents.**

**13- Having organized the first world congress on biomimetics, artificial muscles and nano-bio (BAMN) and serving as its General Chair which has now grown internationally and will be at its 9th International Congress (BAMN 2017) to held on the campus of University of Wollongong in Australia,** **25-27 September (2017). The 9th International Congress (BAMN 2015) was held on the campus of University of British Columbia, Vancouver, Canada in the summer of 2015. The 7th congress was held in South Korea’s historic island of Jeju in 2013**

**14- Having written the first text book with a solutions manual in “Robotic Surgery” in 2014 (Stanford Publishing) with emphasis on the use of Smart Materials in Robotic Surgery to provide haptic feedback to surgeons.**

**15- Creation of the International Journal of Environmental Conscious Design and Manufacturing (IJECDM) which is now in its 24th year**

**16- Having served as series editor in creation of a recent series of published volumes on “Smart Materials” by the Royal Society of Chemistry in UK. So far this series has published some 20 volumes by world’s experts.**

***14. Professional References:***

* Professor Goodarz Ahmadi, Former Dean of Engineering and Clarkson Distinguished Professor, Robert R. Hill ’48 Professor, Clarkson University, P.O. Box 5700 Potsdam, NY 13699-5700, (email: gahmadi@clarkson.edu) Tel: (315)-268-6446/2322
* Professor Abbas Firoozabadi, Department of Chemical & Environmental Engineering, Yale University, 9 Hillhouse Avenue, ML 103, New Haven, CT 06511, (email: abbas.firoozabadi@yale.edu), Tel: (203) 432-4379 also Senior Scientist and Director: Reservoir Engineering Research Institute (RERI), Palo-Alto, California, Tel: (650) 326-9259
* Professor James R. Asay, Emeritus Research Professor, Institute for Shock Physics, Department of Physics and Astronomy, Washington State University, Pullman, WA  99164-2816, (email: jamesasay@aol.com or jrasay@wsu.edu), Tel: (505) 410 6301 and (505) 335-6439
* Professor Kwang J. KimPh.D., Southwest Gas Professor of Energy and Matter, Department of Mechanical Engineering, University of Nevada, Las Vegas (UNLV), 4505 Maryland Parkway, Las Vegas, NV 89154-4027, (email: kwang.kim@unlv.edu), Tel: 702-774-1419 begin\_of\_the\_skype\_highlighting (W)
* Professor Dana Humphrey, Professor and Dean of Engineering, University of Maine, Orono, Maine 04469, (email:dana.humphrey@umit.maine.edu), Tel: (207) 581 2217
* Professor Mohamad Musavi, Professor of Electrical and Computer Engineering and Associate Dean of Engineering, University of Maine, Orono, Maine 04469, (email: Mohamad.Musavi@umit.maine.edu), Tel: (207) 581 2218
* Professor Vincent Caccese, Professor and Graduate Coordinator, Department of Mechanical Engineering, University of Maine, Orono, Maine 04469, (email: vincent.caccese@maine.edu), Tel: (207) 581-2129
* Professor Howard Yonas, MD, Agnes and Earl Walker Distinguished Professor and Chairman: Department of Neurosurgery, School of Medicine, University of New Mexico, Albuquerque, NM 87131 (email: hyonas@salud.unm.edu), Tel: (505)-272-3401
* Professor Mohsen Mosleh, Professor, Department of Mechanical Engineering, Howard University, Washington, DC 20059 (email: mmosleh@howard.edu), Tel: (202) 806 6222
* David Soltanpour, MD., Chief Ophthalmologist and Microsurgeon, New York Eye and Ear, New York, NY (email: soltanpour@aol.com), (917) 972 0538
* Masoud Rais-Rohani, Chair and Richard C. Hill Professor, Department of Mechanical Engineering, University of Maine, Orono, Maine 04469, (email:  masoud.raisrohani@maine.edu), Tel: (207) 581-4120

***15. Media Coverage and Recognition:***

Has been featured in connection with ionic polymeric “Artificial Muscles” and specially the dawn of “Bionic Eyes” in the World, BBC (British Broadcasting Corporation) programs, US NBC, ABC/Peter Jennings World News, CBS (Channel 13), Discovery Channel, KNME, German Public TV, Italian Public TV, Scientific American, Albuquerque Journal, The Albuquerque Tribune, New Mexico Business Weekly (September 2004, March 2005, June 2005), Inc. Magazine (April 2005), KNME TV, CBS (Channel 13), Discovery Channel (Next Step and Beyond 2000) as well as NBC Dateline Discovery and ABC (Channel 7), The Italian National TV, MIT Technology Review, Popular Mechanics, Discovery Magazine, London Sunday Times, Los Angeles Times, Dallas Times, BBC World News (March 2002, Bionic Eyes), New Scientists (April 2002, Bionic Eyes), Popular Science (July 2002, Bionic Eyes), Wired Magazine (March, 2004), many American, European, Canadians and South American (Brazil, Argentina, Columbia, Mexico) Magazines, etc. The September 2005 Issue of Popular Science featured an article on the Future of Human Body and Dr. Shahinpoor’s arm wrestling robots and the ionic polymeric artificial muscles in 2004, 2005 and 2006, please see “[NASA Jet Propulsion Laboratories Robotic Arm Wrestling Competition Website](http://ndeaa.jpl.nasa.gov/nasa-nde/lommas/eap/EAP-armwrestling.htm)”. Recently his publication “Biomimetic Robotic Venus Flytrap” in the Journal of Bioinspiration and Biomimetics (Bioinsp. Biomim. 6 (2011) 046004) has received worldwide attention by:

Wired Magazine, <http://www.wired.co.uk/news/archive/2011-10/28/robotic-venus-flytraps>,

Technology Review, <http://www.heise.de/tr/artikel/Die-robotische-Venusfliegenfalle-1399940.html>, NanoWerk, [http://www.nanowerk.com/spotlight/spotid=24480.php](http://www.nanowerk.com/spotlight/spotid%3D24480.php),

Discovery News, <http://news.discovery.com/tech/robot-venus-flytrap-111020.html>,

QMED,(<http://www.qmed.com/mpmn/medtechpulse/researcher-looks-venus-flytraps-develop-artificial-muscles>)

International Business Times, <http://www.ibtimes.com/articles/240094/20111030/venus-flytrap-prototype-robots-trap-insects-fuel.htm>,

Physics Organization, <http://phys.org/news/2011-10-mechanical-robot-venus-flytrap.html>, and Frog Heart, <http://www.frogheart.ca/?tag=mohsen-shahinpoor>, plus many more and has been downloaded over 500 times in the first few weeks of its publication.

Elected a Fellow of the National Academy of Inventors (NAI) in 2015 (<http://www.prnewswire.com/news-releases/national-academy-of-inventors-announces-2015-nai-fellows-300192962.html>)