Curriculum Vitae

Ramin Masoudi, BSc., MSc., PhD.
American University in Dubai
Dubai Media City, Dubai, UAE
Cell: (+971) 056-8924301
rmasoudi@aud.edu

SKILLS HIGHLIGHTS

- **9 years of experience in teaching and pedagogy in ABET-accredited academia**, focusing on Applied Mechanics, Dynamics and Control, Numerical Methods for Engineers, Robotics, Mechanical Vibrations, and Computer-Aided Design
- **A broad domain of research skills with four years of postdoctoral experience**, working on a wide range of research activities in Modeling and Simulation, Multibody Dynamics, Space Robotics, Vibration Analysis, Experimental Dynamic Analysis using High-speed Camera, Model Order Reduction, and Sensitivity Analysis
- **Organizing/Co-organizing/Chairing several prestigious international Conferences, Symposiums, and Workshops**, including ASME, ECCOMAS, IMSD, MSC Adams, and SolidWorks global events
- **Key contribution in preparing a $400,000 CRD Grant Research Proposal** on Mathematics-based Modelling and Model Reduction for Automotive Systems at the University of Waterloo
- AUD School of Engineering **Teaching Excellence Award** with average courses evaluations of 4.5/5
- **Reviewer of high-ranked Journal/Conference publications**, including ASME, IEEE, Elsevier, John Wiley & Sons, and Springer
- **Five years of industrial experience** in research and design departments of Automotive, Hybrid Filter Design, and Industrial Standards Development companies

EDUCATION

PhD in Systems Design Engineering, June 2012
University of Waterloo, Canada
Area of specialization: Multibody dynamics – Micromechanical modeling of contact with compressible interfaces
Overall Grade Point Average: 94.3/100
Ph.D. Thesis: "*Micromechanics of fiber networks including nonlinear hysteresis and its application to multibody dynamic modeling of piano mechanisms*"
Supervisor: Professor John McPhee

Master of Science in Mechanical Engineering, January 2002
Shiraz University, Iran
Area of Specialization: Dynamics and Control
M.Sc. Thesis: "*A comparison between trajectory and vibration control of flexible free-flying and free-floating space robots*"
Supervisor: Professor Mojtaba Mahzoon

Bachelor of Science in Mechanical Engineering, September 1999
Shiraz University, Iran
Area of Specialization: Solids Mechanics
B.S. Project: "*Dynamical modeling of suspension systems for vehicles subjected to stochastic and deterministic inputs*"
Advisor: Professor Ghodratollah Karami

EXPERIENCE

Associate Professor, Department of Mechanical Engineering, American University in Dubai, Media City, Dubai, UAE (September 2020 – present)

Assistant Professor, Department of Mechanical Engineering, American University in Dubai, Media City, Dubai, UAE (September 2015 – August 2020)

- **Teaching:**
  - Design of Robotic Systems
  - Mechatronic Systems
  - Systems and Controls (Electrical & Computer Engineering Department)
  - Computer-Aided Mechanical Design
  - Mechanical Vibrations
  - Mechanical Engineering Design Project
  - Control Systems
  - Dynamics
  - Numerical Methods in Engineering
  - Field Experience in Mechanical Engineering
  - Solid Mechanics
  - Engineering Graphics and Visualization
  - Physics for Engineering Students
- **Academic Service:**
  - **Chair**, university-wide committee on research, scholarly and creative activities
  - **Director**, robotics students club
  - **Technical committee and advisory board member**, scientific and technical research association
  - **Project supervisor**, senior design projects for undergraduate students
  - **A member of**
    - University entrepreneurship and innovation committee
    - Department of mechanical engineering faculty search committee
    - University provost award committee
    - University AUD-GEMS robotics committee
    - University engineering mathematics courses review committee
  - **Curriculum revision**, Department of mechanical engineering curriculum review for ABET

Postdoctoral Research Fellow, University of Waterloo, Waterloo, ON, Canada (May 2014 – August 2015) [*Automotive Partnership Canada (APC) project on Intelligent Control Systems for Low-emission Energy-Optimal Plug-in Hybrid and Electric Vehicles*]

- **Control-oriented Model Design & Reduction**, real-time applications in Plug-in Hybrid Electric Vehicles
- **Sensitivity Analysis of Physics-based Systems**, applications to high-fidelity engine models
- **Control-relevant Parameter Estimation**, applications to circuit-based modeling of Lithium-ion batteries

Postdoctoral Fellow, University of Waterloo, Waterloo, ON, Canada (May 2012 – May 2014) [*NSERC/Toyota/Maplesoft IRC on Mathematics-based Modelling and Design*]

- **Dynamic Modeling and Design of Nonlinear Systems**, focused on vehicle dynamics and suspension systems
- **Model Order Reduction of Dynamical Systems**, applications to automotive systems: battery, suspension, and vehicle dynamic systems

- **Parameter Identification of Nonlinear Systems**, applications to chemistry-based Lithium-ion battery model and math-based quasi-dimensional engine model

Sessional Lecturer, Department of Systems Design Engineering, University of Waterloo, Waterloo, ON, Canada (May 2014 – August 2014)

- **SYDE 351: System Models 1**, third-year mechatronics students

Research and Teaching Assistant, University of Waterloo, Waterloo, ON, Canada (January 2008 – April 2012)

- **Research Assistantship:**
  - Multibody dynamic modeling of complex physics-based systems
  - Micromechanics of random fiber networks
  - Vibration analysis of flexible rotating beams including hysteretic contact
- **Teaching Assistantship:**
  - Calculus I (Fall 2008)
  - Dynamics (Winter 2009 – Winter 2011)
  - Systems Models I (Spring 2009 – Spring 2010)
  - Linear Systems and Signals (Fall 2009)

Full-time Lecturer, Department of Mechanical and Chemical Engineering, Mavrdash Azad University, Marvdasht, Iran (March 2005 – January 2008)

- **Teaching**:
  - Process Control I & II (Chemical Engineering Department)
  - Computer Aided Design & Engineering
  - Statics
  - Engineering Drawing and Visualization
  - Applied Mechanics
  - Strength of Material Laboratory
- **Academic Service**:
  - Providing professional consulting to launch and equip the *Strength of Materials Laboratory*

Design Engineer, Design Department, F&K Cement Engineering Services Co., GRIIN Clean Air Technology Firm, Shiraz, Iran (March 2005 – May 2007) (Under the License of ELEX AG, Switzerland) [as a part time job (120 hours/month)]

- **Design:**
  - 3D design and manufacturing process of transforming the Sepahan ElectroStatic Precipitator filter to hybrid filter
  - Dehloran baghouse filter design
- **Teaching & Seminars:**
  - Instructor: SolidWorks software
  - Seminar: KHD ElectroStatic Precipitator to hybrid filter transformation process

Research Engineer, Department of Engineering Research, IranKhodro Powertrain Company (IPCo), Tehran (July 2004 – March 2005)

- Vehicle integration project of the TU5 engine (Iran's national engine) using GT-Drive software, collaborated with FEV Motorentechnik GmbH, Germany

Expert of Mechanical Laboratory, Institute of Standards and Industrial Research of Iran, Shiraz (June 2002 – January 2004)

- **Technical committee member in developing national standards, including:**
  - Plastics – determination of flexural properties, temperature of deflection under load, the density of non-cellular plastics, and thermosetting moulding materials-determination of shrinkage

Research and Teaching Assistant, Shiraz University, Shiraz, Fars, Iran (September 1999 – January 2002)

- **Research Assistantship:**
  - Dynamics and control of free-flying and free-floating space robots
  - Variational methods in mechanical engineering
- **Teaching Assistantship:**
  - Advanced Engineering Calculus
  - Dynamics of Machines and Vibrations Laboratory

PUBLICATIONS

Refereed Journal Publications (JR)

(JR12) Masoudi R., Adibi-Asl H., and McPhee J., 2024. "Symbolic Sensitivity Analysis and Parameter Identification of a Physics-based Spark-ignition Engine Model". *Journal of Applied Physics, in preparation.*

(JR11) Masoudi R., Taghavipour A., Azad N. L., and McPhee J. 2024. "A Robust Model Order Reduction Scheme for Lithium-Ion Batteries in Control-Oriented Vehicle Models". *Journal of The Electrochemical Society*, 171(5):053501.

(JR10) Masoudi R. and McPhee J., 2021. "Application of Karhunen–Loève Decomposition and Piecewise Linearization to a Physics-based Battery Model". *Electrochimica Acta*, 365:137093.

(JR9) Masoudi R., 2017. "On the Dynamic Analysis of Free-flying and Free-floating Behaviors of a Flexible Space Robot". *Int. Journal of Mechanical And Production Engineering*, 5(9):74–81.

(JR8) Taghavipour A., **Masoudi R.**, Azad N. L., and McPhee J., 2017. "Control-relevant Parameter Estimation Application to a Model-based PHEV Power Management System". *Optimal Control Applications and Methods*, 38(6):1148–1167, John Wiley & Sons.

(JR7) Masoudi R., 2016. " Vibration Analysis of a Flexible Rotating Beam including a Mechanistic Hysteretic Contact". *Int. Journal of Mechanical and Production Engineering*, 4(9):28–33.

(JR6) Masoudi R. and McPhee J., 2016. "A Novel Micromechanical Model of Nonlinear Compression Hysteresis in Compliant Interfaces of Multibody Systems". *Multibody System Dynamics*, 37(3):325–343.

(JR5) Masoudi R., Uchida T., and McPhee J., 2015. "Parameter Estimation of an Electrochemistry-based Lithium-ion Battery Model". *Journal of Power Sources*, 291(0):215–224.

(JR4) Masoudi R. and Birkett S. H., 2015. "Experimental Validation of A Mechanistic Multibody Model of A Vertical Piano Action". *ASME Journal of Computational and Nonlinear Dynamics*, 10(6):061004 (11 pages).

(JR3) Masoudi R., Uchida T., and McPhee J., 2015. "Reduction of Multibody Dynamic Models in Automotive Systems using the Proper Orthogonal Decomposition". *ASME Journal of Computational and Nonlinear Dynamics*, 10(3):031007 (8 pages).

(JR2) Masoudi R., Birkett S. H., and McPhee J., 2014. "A Mechanistic Multibody Model for Simulating the Dynamics of a Vertical Piano Action". *ASME Journal of Computational and Nonlinear Dynamics*, 9(3):031014 (10 pages).

(JR1) Masoudi R. and Mahzoon M., 2011. "Maneuvering and Vibrations Control of a Free-Floating Space Robot with Flexible Arms". *ASME Journal of Dynamic Systems, Measurement, and Control*, 133(5):051001 (8 pages).

Refereed Conference Papers (CR)

(CR16) **Masoudi R.**, 2023. "Parameter Identification of A Double Wishbone Suspension System Using The Homotopy Optimization". *Proceedings of The 11th ECCOMAS Thematic Conference on Multibody Dynamics 2023*, Lisbon, Portugal, July 24 – 28.

(CR15) **Masoudi R.** and McPhee J., 2020. "A Robust Model Order Reduction Scheme for Control-Oriented Dynamic Systems". *Proceedings of the 14th World Congress in Computational Mechanics (WCCM) ECCOMAS Congress 2020*, Paris, France, July 19 – 24.

(CR14) **Masoudi R.**, 2017. "On the Dynamic Analysis of Free-flying and Free-floating Behaviors of a Flexible Space Robot". *Proceedings of the International Conference on Control, Automation, Robotics and Vision Engineering (ICCARVE)*, Venice, Italy, July 22 – 23.

(CR13) **Masoudi R.**, 2016. "Vibration Analysis of a Flexible Rotating Beam including a Mechanistic Hysteretic Contact". *Proceedings of the International Conference on Mechanical and Aerospace Engineering (ICMAE)*, Amsterdam, Netherland, June 15 – July 16.

(CR12) **Masoudi R.** and McPhee J., 2015. "Reduction of a High-fidelity Vehicle Dynamic Model Using the Proper Orthogonal Decomposition". *Proceedings of the ECCOMAS Multibody Dynamics 2015*, Barcelona, Spain, June 29 – July 2.

(CR11) **Masoudi R.**, Flores P., and McPhee J., 2014. "Benchmark Problems for Contact Dynamics in Multibody Systems". In *Proceedings of the 3rd Joint International Conference on Multibody System Dynamics*, BEXCO, Busan, Korea, June 30 – July 3.

(CR10) Masoudi R., Uchida T., Vilela D., Luaces A., Cuadrado J., and McPhee J., 2014. "An Update on the Web-based Library of Computational Benchmark Problems for Multibody Dynamics". In *Proceedings of the 3rd Joint International Conference on Multibody System Dynamics*, BEXCO, Busan, Korea, June 30 – July 3.

(CR9) **Masoudi R.**, Adibi-Asl H., Lashgarian Azad N., and McPhee J., 2014. "Parameter Identification of a Quasi-dimensional Spark-Ignition Engine Combustion Model". SAE Technical Paper 2014-01-0385, In *Proceedings of the SAE 2014 World Congress & Exhibition*, Detroit, Michigan, USA, April 8 – 10.

(CR8) Adibi Asl H., **Masoudi R.**, Fraser R., and McPhee J., 2014. "Symbolic Sensitivity Analysis of A Math-based Spark Ignition Engine with Two-zone Combustion Model". SAE Technical Paper 2014-01-1072, In *Proceedings of the SAE 2014 World Congress & Exhibition*, Detroit, Michigan, USA, April 8 – 10.

(CR7) Ing A., **Masoudi R.**, McPhee J., Dao T., and Reimers J., 2014. "Comparison of Optimization Techniques for Lithium-ion Battery Model Parameter Estimation". SAE Technical Paper 2014-01-1851, In *Proceedings of the SAE 2014 World Congress & Exhibition*, Detroit, Michigan, USA, April 8 – 10.

(CR6) Taghavipour A., **Masoudi R.**, Lashgarian Azad N., and McPhee J., 2013. "High-fidelity Modeling of a Power-split Plug-in Hybrid Electric Powertrain for Control Performance Evaluation". In *Proceedings of the ASME 2013 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference (IDETC/CIE 2013)*, Portland, Oregan, USA, August 4 – 7.

(CR5) **Masoudi R.**, Uchida T., and McPhee J., 2013. "Comparison of Model Order Reduction Methods for Automotive Systems". In *Proceedings of the ECCOMAS Multibody Dynamics 2013*, Zagreb, Croatia, July 1 – 4.

(CR4) **Masoudi R.**, Uchida T., Vilela D., Luaces A., Cuadrado J., and McPhee J., 2013. "A Library of Computational Benchmark Problems for the Multibody Dynamics Community". In *Proceedings of the ECCOMAS Multibody Dynamics 2013*, Zagreb, Croatia, July 1 – 4.

(CR3) **Masoudi R.** and McPhee J., 2012. "A Mechanistic Model of Compression Hysteresis in Compliant Interfaces in Multibody Dynamic Simulation of a Piano Action Mechanism". In *Proceedings of The 2nd Joint International Conference on Multibody System Dynamics*, Stuttgart, Germany, May 29 - June 1.

(CR2) **Masoudi R.**, Birkett S. H., and Salehian A., 2011. "Dynamic Simulation and Vibration Analysis of a Mechanical Piano Key Actuator". In *Proceedings of the ASME 2011 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference (IDETC/CIE 2011)*, Washington, DC, USA, August 28 – 31.

(CR1) **Masoudi R.**, Birkett S. H., and McPhee J., 2009. "Dynamic Model of a Vertical Piano Action Mechanism". In *Proceedings of the ASME 2009 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference (IDETC/CIE 2009)*, San Diego, California, USA, Aug. 30 – Sep. 2.

Poster Presentations (PP)

(PP2) **Masoudi R.**, Taghavipour A., Adibi-Asl H., Lashgarian Azad N., and McPhee J. "Model-based Design and Control of Advanced Automotive Systems". *Presented in the Ontario and Canada Research Chairs Symposium*, Toronto, Canada, April 03, 2015.

(PP1) **Masoudi R.**, Adibi-Asl H., and McPhee J. "Parameter Identification of a Quasi-dimensional Spark-ignition Engine Combustion Model, A Homotopy Global Optimization Scheme". *Presented in the NSERC CREATE Program in Clean Combustion Engines*, University of Toronto, Toronto, Canada, May 07, 2014.

SCHOLARLY PRESENTATIONS

- **Masoudi R.**, Postdoctoral Fellow. **"Reduction of Nonlinear Dynamical Systems Using Trajectory PieceWise Linearization, An Electrochemistry-based Lithium-ion Battery Model".** *Automotive Partnership Canada project on Intelligent Control Systems for*

Low-emission Energy-Optimal Plug-in Hybrid and Electric Vehicles, University of Waterloo, Canada, April 06, 2015.

- **Masoudi R.**, Postdoctoral Fellow. **"A Control-oriented Reduced-order Lithium-ion Battery Model, The Proper Orthogonal Decomposition Scheme".** *Automotive Partnership Canada project on Intelligent Control Systems for Low-emission Energy-Optimal Plug-in Hybrid and Electric Vehicles*, University of Waterloo, Canada, February 23, 2015.
- **Masoudi R.**, Postdoctoral Fellow. **"Model Order Reduction Using Proper Orthogonal Decomposition, Robustness Study for A Reduced-order Lithium-ion Battery Model".** *Automotive Partnership Canada project on Intelligent Control Systems for Low-emission Energy-Optimal Plug-in Hybrid and Electric Vehicles*, University of Waterloo, Canada, December 16, 2014.
- **Masoudi R.** and Adibi H., Postdoctoral Fellow. **"Symbolic Sensitivity Analysis of A Physics-based Engine Model, Sensitivity of The Emission Species".** *Automotive Partnership Canada project on Intelligent Control Systems for Low-emission Energy-Optimal Plug-in Hybrid and Electric Vehicles*, University of Waterloo, Canada, December 16, 2014.
- **Masoudi R.**, Postdoctoral Fellow. **"Control-oriented Parameter Identification Using Homotopy Scheme, Application to Plug-in Hybrid Electric Vehicles".** *Automotive Partnership Canada project on Intelligent Control Systems for Low-emission Energy-Optimal Plug-in Hybrid and Electric Vehicles*, University of Waterloo, Canada, September 29, 2014.
- **Masoudi R.** and Taghavipour A., Postdoctoral Fellow. **"Physics-based Modeling and Model Order Reduction, Toyota Prius Plug-in Hybrid Electric Vehicle".** *Automotive Partnership Canada project on Intelligent Control Systems for Low-emission Energy-Optimal Plug-in Hybrid and Electric Vehicles*, University of Waterloo, Canada, September 04, 2014.
- **Masoudi R.**, Postdoctoral Fellow. **"Thermal Regeneration of Diesel Particulate Filters, Physics-based Modeling & Model Order Reduction".** *Automotive Partnership Canada project on Intelligent Control Systems for Low-emission Energy-Optimal Plug-in Hybrid and Electric Vehicles*, University of Waterloo, Canada, July 14, 2014.
- **Masoudi R.**, Postdoctoral Fellow. **"Parameter Estimation of Dynamical Systems Using Homotopy Approach, Chemistry-based Battery & Physics-based Engine Parameter ID".** *NSERC/Toyota/Maplesoft IRC on Mathematics-based Modelling and Design*, University of Waterloo , Canada, October 23, 2013.
- **Masoudi R.**, Postdoctoral Fellow. **"Model Order Reduction & Parameter Identification of Dynamical Systems, Trajectory PieceWise Linearization, Proper Orthogonal Decomposition, and Homotopy Schemes".** *NSERC/Toyota/Maplesoft IRC on Mathematics-based Modelling and Design*, Toyota Technical Center, Ann Arbor, Michigan, USA, January 28, 2013.
- **Masoudi R.**, Postdoctoral Fellow. **"Model Order Reduction of Dynamical Systems, Application to Plug-in Hybrid Electric Vehicles Subsystems".** *NSERC/Toyota/Maplesoft IRC on Mathematics-based Modelling and Design*, University of Waterloo, Waterloo, Canada, December 5, 2012.
- **Masoudi R.**, M.Sc. Candidate. **"Application of Variational Methods in Optimal Control".** *Departmental Seminar*, Shiraz University, Shiraz, Iran, October 02, 2001.
- **Masoudi R.**, M.Sc. Candidate. **"Normal Modes of Vibration for Non-linear Continuous Systems – On the Calculation of Non-linear Normal Modes in Continuous Systems".** *Departmental Seminar*, Shiraz University, Shiraz, Iran, April 25, 2001.

CERTIFICATES **The Harvard Institutes for Higher Education**, The Online Classroom Strategies for Higher Education Teaching and Learning, Harvard, USA (Spring 2021)

Natural Sciences and Engineering Research Council of Canada CREATE Program in Clean Combustion Engines, The CCE CREATE Combustion Summer School, University of Toronto, Toronto (Summer 2014)

MEMBERSHIPS

American Society of Mechanical Engineers (ASME), January 2009 – present

American Institute of Aeronautics and Astronautics (AIAA), January 2009 – present

Automation Committee Member in the Fars Industries Managers Association, Shiraz, Iran (May 2005 – January 2008)

RELEVANT COURSES

Dynamics of Mutibody systems
Analytical Methods in Vibrations
Experimental Methods in Material Engineering
Advanced Mechanics of Continua
Variational Methods in Mechanical Engineering
Advanced Engineering Mathematics
Advanced Dynamics
Dynamical Systems
Finite Element Method
Continuum Mechanics
Advanced Vibrations
Robotics

COMPUTER SKILLS

DynaFlexPro, MapleSim, MSC Adams, Autocad, SolidWorks, Working Model, GT-Drive, Maple, Matlab, Mathematica, Fortran95, Quick Basic, Latex, Microsoft Word, Excel, PowerPoint

REVIEWER

Journal Publication

- ASME Journal of Computational and Nonlinear Dynamics (ASME)
- IEEE Robotics and Automation Letters (IEEE)
- IEEE Transactions on Systems, Man, and Cybernetics Systems (IEEE)
- Multibody System Dynamics (Elsevier)
- Mechanism and Machine Theory (Elsevier)
- Applied Mathematical Modelling (Elsevier)
- Nonlinear Dynamics (Springer)
- Transactions of the Canadian Society for Mechanical Engineering (CSME)
- International Journal of Energy Research (John Wiley & Sons)
- Meccanica, An International Journal of Theoretical and Applied Mechanics (Springer)
- Mechanics Based Design of Structures and Machines (Taylor & Francis)

Conference Publication

- [**IEEE/AIM 2017**] IEEE International Conference on Advanced Intelligent Mechatronics 2017, Munich, Germany
- [**ASME/IDETC 2017**] ASME International Design Engineering Technical Conferences & Computers and Information in Engineering Conference 2017, Cleveland, Ohio, USA
- [**IMSD 2016**] Joint International Conference on Multibody System Dynamics 2016, Montreal, Quebec, Canada
- [**ECCOMAS 2015**] European Community on Computational Methods in Applied Sciences - Thematic Conference on Multibody Dynamics 2015, Barcelona, Spain

- [**ASME/IDETC 2013**] ASME International Design Engineering Technical Conferences & Computers and Information in Engineering Conference 2013 , Portland, Oregan, USA
- [**ASME/IDETC 2009**] ASME International Design Engineering Technical Conferences & Computers and Information in Engineering Conference 2009, San Diego, California, USA

PROFESSIONAL AFFILIATIONS

Invited Session Chair, *Biomechanics* in the 11th European Community on Computational Methods in Applied Sciences (ECCOMAS) - Thematic Conference on Multibody Dynamics 2023, Lisbon, Portugal.

Workshop Organizer, *Vibration Analysis and Stress Estimation Under Dynamic Loading using SolidWorks*, in collaboration with Atmata Trading L.L.C, October 2022, American University in Dubai, Dubai, UAE

Invited Speaker, *Free-flying and Free-floating space robots: dynamics and control challenges*, The International Meet & Expo on Aerospace and Aeronautical Engineering (AEROMEET2022), Dubai, UAE, March 21-23, 2022.

Workshop Organizer and Speaker, *Cognitive Presence in Online learning: Maximizing Opportunities, Minimizing Barriers*, Fall 2021, American University in Dubai, Dubai, UAE

Stevens Initiative Faculty Scholar, *The Stevens Initiative Connected Classrooms Program: Collaborative Online International Learning*, in collaboration with the University of New Mexico, Spring 2021, New Mexico, USA - Dubai, UAE

Workshop Organizer, *What's New Solidworks 2020 and Motion Simulation for Robotics*, in collaboration with Atmata Trading L.L.C, January 2021, American University in Dubai, Dubai, UAE

Keynote Speaker, *Model Order Reduction in Dynamic Systems: Advances and Applications*, in the 5th International Conference on Science & Technology Research (ICSTR2019), Dubai, UAE

Invited Speaker, *The Pioneering Role of Multibody Dynamics in the Modeling of Mechanical Systems*, in the 2nd World Congress on Mechanical and Mechatronics Engineering (WCMME-2019), Dubai, UAE

Symposium Co-Organizer, *Contact and Interface Dynamics* in the 14th International Conference on Multibody Systems, Nonlinear Dynamics, and Control (MSNDC), ASME 2018 IDETC/CIE, Quebec City, Canada

Session Organizer, *Benchmark Problems in Multibody System Dynamics* in the 5th Joint International Conference on Multibody System Dynamics (IMSD 2018), Instituto Superior Técnico, Lisboa, Portugal

Workshop Organizer, *MSC Adams Software Workshop*, in collaboration with MSC Software, Madrid, Spain, September 2017, American University in Dubai, Dubai, UAE

Symposium Co-Organizer, *Software Tools for Computational Dynamics* in the 13th International Conference on Multibody Systems, Nonlinear Dynamics, and Control (MSNDC), ASME 2017 IDETC/CIE, Cleveland, Ohio, USA

Symposium Chair, *Symposium on Benchmark Problems in Multibody System Dynamics* in the 13th International Conference on Multibody Systems, Nonlinear Dynamics, and Control (MSNDC), ASME 2017 IDETC/CIE, Cleveland, Ohio, USA

Invited Speaker & Technical Session Chair, International Academy of Science, Technology, Engineering, and Management Conference 2017, Venice, Italy

Session Organizer, *Benchmark Problems in Multibody System Dynamics* in the 4th Joint International Conference on Multibody System Dynamics (IMSD 2016), McGill University, Montreal, Quebec, Canada

Session Organizer, *Benchmark Problems in Multibody System Dynamics* in the European Community on Computational Methods in Applied Sciences (ECCOMAS) - Thematic Conference on Multibody Dynamics 2015, Barcelona, Spain

Session Chair, *Benchmark Problems in Multibody System Dynamics* in the European Community on Computational Methods in Applied Sciences (ECCOMAS) - Thematic Conference on Multibody Dynamics 2015, Barcelona, Spain

Session Organizer, *Benchmark Problems in Multibody System Dynamics* in the 3rd Joint International Conference on Multibody System Dynamics (IMSD 2014) and the 7th Asian Conference on Multibody Dynamics (ACMD 2014), Busan, Korea

Session Chair, *Vehicle Dynamics and Simulation* in the European Community on Computational Methods in Applied Sciences (ECCOMAS) - Thematic Conference on Multibody Dynamics 2013, Zagreb, Croatia

SCHOLARLY ACTIVITIES

Grant Research Proposal, Contributing to the development and writing a grant proposal on *Mathematics-based Modelling and Model Reduction for Automotive Systems*, a four-year research grant approved by the Natural Sciences and Engineering Research Council of Canada, applied by **Professor John McPhee**.

AWARDS

- School of Engineering Teaching Excellence Award for the academic year 2018-2019, American University in Dubai
- Postdoctoral Fellowship, University of Waterloo/Toyota Technical Center, 54,000 CAD per year, June 2014 – August 2015 [*Automotive Partnership Canada (APC) project on Intelligent Control Systems for Low-emission Energy-Optimal Plug-in Hybrid and Electric Vehicles*]
- Postdoctoral Fellowship, University of Waterloo/Toyota Technical Center/Maplesoft, 54,000 CAD per year, May 2012 – May 2014 [*NSERC/Toyota/Maplesoft IRC on Mathematics-based Modelling and Design*]
- Ontario Graduate Scholarship in Science and Technology, Winter 2011
- OGSST – Systems Design Engineering, Winter 2011
- University of Waterloo International Graduate Student Award, January 2008 – January 2011
- Graduate Research Studentship, Winter 2011 – Winter 2012
- University of Waterloo Graduate Scholarship, Winter 2010
- Awarded First-class Honours in M.Sc., Fall 2002
- Second Best Student in B.Sc., Fall 1999

INTERESTS

Playing the Piano, Classical Music

References

Dr. John McPhee, Ph.D., P.Eng.
(**University of Waterloo, Canada, 1990**)
Department of Systems Design Engineering
University of Waterloo, Waterloo, Ontario, Canada
(+01)(519)888-4567 x35341
mcphee@uwaterloo.ca

Dr. Mojtaba Mahzoon, Ph.D.
(**University of California at Berekley, USA, 1984**)
Department of Mechanical Engineering
Shiraz University, Shiraz, Iran
(+98)(711)(6286531-5)
mahzoon@shirazu.ac.ir

Dr. Ghodratollah Karami, Ph.D.
(**Imperial College London, UK, 1984**)
Department of Mechanical Engineering and Applied Mechanics
North Dakota State University, North Dakota, USA
(+01)(701)231-5859
g.karami@ndsu.edu

Dr. Nasser Lashgarian Azad, Ph.D., P.Eng.
(**University of Waterloo, Canada, 2006**)
Department of Systems Design Engineering
University of Waterloo, Waterloo, Ontario, Canada
(+01)(519)888-4567 x38797
nlashgar@uwaterloo.ca

Dr. Sadegh Babaii Kochekseraii, Ph.D., P.Eng.
(**University of Manchester Institute of Science and Technology, UK, 1995**)
Department of Mechanical Engineering
The University of Ontario Institute of Technology, Ontario, Canada
(+01) (905)721-8668 x6146
ben.babaii@uoit.ca

Dr. Mehrdad Farid, Ph.D.
(**University of Calgary, Canada, 1997**)
Department of Mechanical Engineering
Shiraz University, Shiraz, Iran
(+98)(711)(6286531-5)
farid@shirazu.ac.ir