Ahmad Bataineh

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- **OBJECTIVES**

  To obtain an academic position in reputable institute that will enable me to use my strong research skills and educational background to teach students and collaborate with colleagues to perform excellent research.

- **RESEARCH INTERESTS**

  - Vibration Analysis
  - Micro-electro Mechanical Systems (MEMS)
  - Nano-electro Mechanical Systems (NEMS)
  - Linear and Nonlinear Dynamics
  - Structural Mechanics
  - Testing and characterization for MEMS Resonators
  - Failure Analysis

- **TEACHING INTERESTS**

  - Advanced Mechanical Vibration
  - Sensors and Actuators Dynamics
  - Dynamics of MEMS & Microsystems
  - Advanced Control Systems
  - Fluid Power Control with Applications
  - Instrumentation

- **EDUCATION**

  - **PhD Mechanical Engineering August/2013**
    - State University of New York at Binghamton,Thomas J. Watson School of Engineering and Applied Science
    - Dissertation Title: Static and Dynamic Responses of Microbeams Accounting for their Common Imperfections
    - GPA: 3.90/4
  - **M.S. in Mechanical Engineering / Mechatronics August /2008**
    - Jordan University of Science and Technology, Irbid, Jordan
    - Thesis Title: Intelligent Adaptive Control for Anti-lock Braking System
    - GPA: 90.1/100 (rank 1st)
  - **B.S. in Mechanical Engineering / Mechatronics August /2006**
    - Jordan University of Science and Technology, Irbid, Jordan
    - Graduation Project: Using Signal Processing Technique to Detect a Fracture in a Rotating beam
    - GPA: 78.8/100 (rank 15/124)

- **RESEARCH EXPERIENCE**

  - **Research Engineer, MEMS Characterization Lab, Research Foundation of SUNY, 09/2009-present**
    - **Project title: Design and development of toxic gas sensor (09/2010-present)**
      - Mechanical design and development of a MEMS toxic gas sensor. Duties include mechanical design, finite element analysis, test design and troubleshooting
      - Improved sensitivity of MEMS toxic gas sensor by process improvement of selective coating
      - Developed tests for MEMS mass sensors using Laser Doppler Vibrometer WYKO profilometer, Vacuum chamber
    - **Project title: Manufacturing and fabrication process effect on MEMS sensors components and structures (09/2010-present)**
      - Examined the effect of fabrication process on micro structure performance
      - Optimized parameters for production guideline and performance benchmark
    - **Project title: Reliability and failure modes for MEMS sensors under environmental conditions (09/2009-08/2010). Texas instruments project**
      - Analyzed failure modes for MEMS sensors under environmental conditions such as humidity

- **TEACHING EXPERIENCE**

  - **Assistant professor, Mechanical Engineering Department, Jordan University of Science and Technology, Irbid, Jordan, Septemper 2014-Present**
  - **Assistant professor, Mechanical Engineering Department, The Hashemite University, Al-Zarqa, Jordan, January 2014-Septemper 2014**
  - **Teaching Assistant, Mechanical Engineering Department, Binghamton University, August/2010-August/2012**
    - Tutored undergraduate student in Dynamics, Vibration, Mechanical Design, and MEMS Courses, grade homework, quizzes and exams. Lecturing and held office hours.
  - **Teaching Assistant, Jordan University of Science and Technology, 2006-2009**
    - Tutored undergraduate students in Strength of Material, Engineering Drawing, Dynamics, Thermo , Dynamics, Fluid, Strength of Material Lab, Instrumentation Lab, Automation, Fuzzy Control, Control, Mechatronics Lab.
    - Mechatronics Laboratory advisor, experiments related to Automation, Microcontroller, PLC, Hydraulic Systems

- **INDUSTRIAL EXPERIENCE**

  - **Samra Electric Power Generator Company (SEPGCO), 09/2007- 08/2009**
    - Operations Department, Co-Chief Engineer, team leader of 20 technicians to maintain an output of 600 MW of electricity.

- **SELECTED PUBLICATIONS**
  - A. Batieneh, M.I. Younis, and L. Ruzziconi, *Modeling the dynamics of MEMS arches of complaint supports*, in proc. of The International Conference on Structural Nonlinear Dynamics and Diagnosis, Marrakech, Morocco, April 30 to May 02, 2012.
  - L. Ruzziconi, A. Bataineh, M. I. Younis, W. Cui, and S. Lenci, *Nonlinear dynamics of an electrically actuated imperfect microbeam resonator: experimental investigation and reduced-order modeling*, Journal of Micromechanics and Microengineering, JMM/458161, 14pp, 2013.
  - L. Ruzziconi, A. Bataineh, M. I. Younis, and S. Lenci, *Nonlinear Response of a MEMS Resonator*, ASME 2012 International Design Engineering Technical Conferences & Computers

and Information in Engineering Conference IDETC/CIE 2012 August 12-15, 2012, Chicago, IL, USA.

- L. Ruzziconi, A. Bataineh, M. Younis, W. Cui, and S. Lenci, *Nonlinear Dynamics of a MEMS Resonator: Theoretical and Experimental Investigation,* Proceedings of the ICNPAA 2012 World Congress: 9th International Conference on Mathematical Problems in Engineering, Aerospace and Sciences, Vienna, Austria, July 10 - July 14, 2012.
- L. Ruzziconi, A. Bataineh, M. I. Younis, and S. Lenci, *An Imperfect Micro-beam Electrically Actuated: Experimental Investigation and Parameter Identification*, ASME 2012 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference IDETC/CIE 2012 August 12-15, 2012, Chicago, IL, USA.
- L. Ruzziconi, A. Bataineh, M. I. Younis, and S. Lenci, *Theoretical and experimental investigation of the nonlinear response of an electrically actuated imperfect microbeam*, , in proc. of The International Conference on Structural Nonlinear Dynamics and Diagnosis, Marrakech, Morocco, April 30 to May 02, 2012.
- *Nonlinear Dynamic Response of an Electrically Actuated Imperfect Microbeam Resonator*, Submitted to DETC 2013-12240, Oregon, USA
- In Progress*: Experimental and theoretical investigation of electrostatic resonator*
- In Progress: *Theoretical and Experimental Investigation of the Nonlinear Response of an Electrically actuated Resonator*

- **PRESENTATION /POSTERS**
  - Ahmad Bataineh, Mohammad Younis, Collapse of Electrostatically Actuated Microbeams due to Capillary Forces, IEEC TAB Meeting, 03-10-2010
  - Ahmad Bataineh, Mohammad Younis, Switch Triggered by Gas Detection, Mechanical Department Symposium, 2012
  - Ahmad Bataineh, Vadim Bromberg, Omowunmi Sadiq, Weili Cui, Timothy Singler, Mohammad Younis, Switch Triggered by Gas Detection, Science-to-Technology conference, 2012

- **HIGLIGHT OF QUALIFICATIONS**
  - Two years industrial experiences as an operational engineer in SEPGCO
  - More than seven years as a teaching assistant and a laboratory advisor
  - Four years as a research assistant
  - Four years as an experimentalist in the vibration and dynamic laboratory in Binghamton University
  - Familiar with modal and vibration analysis
  - Familiar with dynamical analysis
  - Strong background in MATLAB, Mathmatica, AutoCAD, Mechanical Desktop
  - Good background in LabView, ANSYS
  - Excellent background in MEMS, Applied Mechanics, Vibration, Control, Mechatronics, Fuzzy Control, Automation, Sensors and Actuators
  - Good background in Project Management

- **COMPUTER SKILLS**
  - Operating Systems: Windows 95/98/2000/XP/Vista/7/8
  - Scientific Applications: Matlab, Mathematica, LabView , ANSYS
  - Technical Drawing: AutoCAD, Mechanical Desktop, SoldWorks, Pro-E
  - Applications: Microsoft Office
  - Micro-Fabrication Programs: L-edit.
  - PLC programs
- **AFFILIATIONS**

  Member of the Jordanian Engineers Association (JEA)

- **REFERENCES**

- **Professor Mohammad Younis (PhD Advisor)**
  Associate Professor
  State University of New York at Binghamton
  Mechanical Engineering Department
  Sabbatical in King Abdullah University of Science and Technology (KAUST)
  Physical Sciences and Engineering Division
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  4700 King Abdullah University of Science and Technology
  Thuwal 23955-6900
  Kingdom of Saudi Arabia

- **Professor Ronald Miles**
  Distinguished Professor, Associate Dean for Research
  State University of New York at Binghamton
  Mechanical Engineering Department
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- **Professor James Pitarresi**
  Distinguished Teaching Professor, Department Chair
  State University of New York at Binghamton
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