Ali Alhadidi

227 Mechanical Engineering Department,
University of Jordan, Amman 11942 – Jordan

ahadidi@ju.edu.jo
00962-65355000

EDUCATION:

Ph.D., Clemson University – USA , 08/ 2016, Mechanical Engineering.

M.Sc., University of Jordan - Jordan, 06/2009, Mechanical Engineering.

B.Sc., University of Jordan - Jordan, 09/2006, Mechanical Engineering.

EXPERIENCE:

University of Jordan — Assistant Professor — 2016-Now
Mechanical Engineering Department. Teaching courses in the area of system's dynamics and control, and supervise some undergraduate projects.

New York University — Visiting Scholar — May - August 2017
Mechanical Engineering Department.
Participated in a collaborative research with faculty in the area of system dynamics and control.

University of Jordan — Lecturer — 2011-2012
Mechanical Engineering Department. courses I taught: Dynamics, Computer Applications for Engineers, Systems Control, and Engineering Drawing.

University of Jordan — Graduate Research and Teaching Assistance — 2006-2009
Mechanical Engineering Department.
Conduct a research in the area of system dynamics and control, and mechanical vibration lab assistance.

Royal Scientific Society Part time lab Assistance 2007-2008

Responsible for conduct research in the area of mechanical vibration system, testing specimens under excessive vibration, and writing technical reports

RESEARCH PEOJECTS DESCRIPTION:

Exploiting a Nonlinear Restoring Force to Improve the Performance of Galloping Flow Energy Harvesters

This research study assesses the performance of galloping flow energy harvester employing a nonlinear restoring force in steady and unsteady flow conditions and tries to elucidate the influence of the nonlinearity on their performance. Also, it provides directions for how to choose the restoring force of the harvester to maximize the output power. The research study is done in the laboratories of Clemson University – USA, under supervision of Dr. Mohammed F. Daqaq.

Experimental Investigation of Cylindrical Magneto Rheological Fluid Brake.

This study presents an experimental investigation of the performance of a cylindrical magneto-rheological fluid brake system manufactured and instrumented at the University of Jordan Mechanical Engineering laboratories. The experiments were carried out using a "home-made" rheological fluid, using silicon oil as a base fluid, iron powder and lithium grease.

Impact response of composite target using finite element technique.

This research contained composite materials applications, dynamic applications, and solid mechanics applications; the work was achieved by using computer simulation.

Selected Publications:

Alhadidi, Ali H., Hamid Abderrahmane, and Mohammed F. Daqaq. "Exploiting stiffness nonlinearities to improve flow energy capture from the wake of a bluff body." *Physica D: Nonlinear Phenomena* (2016).

Alhadidi, A. H., and Mohammed F. Daqaq. "A broadband bi-stable flow energy harvester based on the wake-galloping phenomenon." *Applied Physics Letters 109.3 (2016): 033904.*

Bibo, Amin, **Ali H. Alhadidi**, and Mohammed F. Daqaq. "Exploiting a nonlinear restoring force to improve the performance of flow energy harvesters." *Journal of Applied Physics* 117.4 (2015): 045103.

Alhadidi, Ali H., Hamid Abderrahmane, and Mohammed F. Daqaq. "Utilizing Bi-Stability to Improve the Performance of Wake-Galloping Energy Harvesters in Unsteady Flow". *ASME 2016 International Design Engineering Technical and Computers and Information in Engineering Conference (2016).*

Alhadidi, A. H., and Mohammed F. Daqaq**.** "A Broadband Bi-Stable Wake-Galloping Flow Energy Harvester". *Invited paper to ASME 2016 Dynamic Systems and Control Conference (2016).*

Alhadidi, Ali H., and Mohammed F. Daqaq. "Exploiting Bi-Stability to Enhance Energy Capture From Turbulent Flows." *ASME 2015 Conference on Smart Materials, Adaptive Structures and Intelligent Systems*. American Society of Mechanical Engineers, 2015.

Alhadidi, Ali H., Amin Bibo, and Mohammed F. Daqaq. "Flow energy harvesters with a nonlinear restoring force." *ASME 2014 Conference on Smart Materials, Adaptive Structures and Intelligent Systems*. American Society of Mechanical Engineers, 2014. Available upon request

TECHNICAL SKILLS:

AUTOCAD.
PRO-E.
SOLIDSWORK.
ANSYS.
ABACUS.
MATLAB.
Microsoft Office.

Recommendation letters and Referees:

Available upon request