Felix Ewere, PhD

Department of Mechanical and Aerospace Engineering
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Education

- **PhD, Mechanical Engineering, Expected December 2015**
  University of Alabama in Huntsville, Huntsville, AL, USA
  Dissertation: Flow Induced Vibration on Piezoelectric Structures:
  Theory, Characterization and Application

- **Master of Science, Aerospace Engineering, July, 2010**
  University of Alabama in Huntsville, Huntsville, AL, USA
  Project: Design, Fabrication and Test launch of Charger Rocket

- **Bachelor of Science, Mechanical Engineering, August, 2005**
  University of Lagos, Lagos, Nigeria
  Senior Design Project: Design and Construction of "An Unmanned Mobile Remotely Operated & Monitored Underwater Vehicle (Lagoon Ranger)"
  www.lagoonranger.i8.com

Professional Experience

- **Lecturer, January 2016 to present**
  Department of Mechanical and Aerospace Engineering
  University of Alabama in Huntsville
  - MAE 284 – Numerical Methods
  - MAE 272 – Dynamics
- **Research Assistant, August 2012 to December 2015**
  Adaptive Structures Laboratory
  Department of Mechanical and Aerospace Engineering
  University of Alabama in Huntsville

  Research works in areas which include: Flow-induced vibration, Aeroelasticity, Nonlinear Structural Dynamics, Energy Harvesting, Adaptive Structures, and Smart Materials

  Characterized flow-induced piezoelectric energy harvester (PhD work)
  - Develop analytical nonlinear models and obtain approximate solutions
  - Prototype development
  - Fabrication and wind tunnel tests
  - FEA simulations and numerical analysis
- **Graduate Teaching Assistant, August 2012 to December 2015**
  Department of Mechanical and Aerospace Engineering
  University of Alabama in Huntsville

  MAE 100 - Introduction to Mechanical Engineering
  - Introduce students to engineering software tools, supervise them to design and fabricate prototype projects in the machine shop, technical report writing and making presentations.
  - Programming and data acquisition using Arduino Uno

- **Engineer I (Chinese affiliate, Xian China), February 2012 to July 2012**
- **Engineer I (Technical Assistant to Centre Director), Dec. 2010 to Jan. 2012**
- **Engineer II, December 2007 to November 2010**
  National Space Research and Development Agency (NASRDA)
  Garki FCT Abuja, Nigeria

Skills

- **Technical:**
  - Develop nonlinear analytical models, governing equations and algorithms
  - Parameter study (approximate solutions) and numerical solutions
  - Develop LabVIEW VIs and programing
  - Design experimental setup, data acquisition and post processing
  - Engineering analysis, prototype development and testing
  - CAD Design and fabrication
  - FEA Simulation and verification analysis
  - Proposal preparation and writing technical documents
- **Software:**
  NI LabVIEW, Matlab, Mathcad, COMSOL Multiphysics, Solid Edge, SOLIDWORKS, Patran/Nastran, PULSE Reflex, Bobcat (STAR6), MS Office, NI DIAdem

Society/ Service

- **Reviewer:**
  - Journal of Intelligent Material Systems and Structures
  - Smart Materials and Structures
- **AIAA STEM Emissary 2010**
- **ASME Member, 2009 to present**
- **AIAA Young Professional, 2008 to present**

Honors/Awards

- Phi Kappa Phi Honor Society (2010)
- Aerospace Honor Society (Sigma Gamma Tau) (2010)
- Dean's List – School of Graduate Studies – UAH (2009, 2010, 2013, 2014, 2015)
- National Prize (Second Place) for most outstanding Applied Research Project
  National Universities Research and Development Fair (NURESDEF 2006)

Selected Publications

- Ewere, F., Wang, G. and Cain, B., 2014, Experimental Investigation of Galloping Piezoelectric Energy Harvesters with Square bluff bodies, *Smart Materials and Structures,* 23(10) 104012
- Ewere, F. and Wang, G., 2013, Performance of Galloping Piezoelectric Energy Harvesters, *Journal of Intelligent Material Systems and Structures*, 25(14) 1693-1704
- Ewere, F., Wang, G. and Frendi, K., 2015, Galloping Piezoelectric Energy Harvesters with Bio-inspired Square Bluff Body, 23rd *AIAA/ASME/AHS Adaptive Structures Conference proceedings, AIAA Science and Technology Forum 2015*, Kissimmee, Florida, USA, 5-9 January
- Ewere, F. and Wang, G., 2013, Performance of Galloping Piezoelectric Energy Harvesters with Square Bluff Body, *ASME smart materials, adaptive structures and intelligent systems proceedings*, Snowbird Utah, USA, 16-18 September

Patent

- G. Wang and F. Ewere, 2014, *Piezoelectric Airflow Sensor*, UAH Invention Disclosure, UAH-P-14018.