Center of Excellence in Intelligent Engineering Systems

# SEMINAR

**Speaker:** **Dr. Umar Alqasemi**
Assistant Professor of Biomedical Engineering,
Department of Electrical and Computer Engineering,
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**Umar Alqasemi** received his M.Sc. and Ph.D. in Biomedical Engineering from the University of Connecticut, Storrs, USA in 2011 and 2013, respectively. He served as a research assistant in the Optical and Ultrasound Imaging Lab at UConn from Jan 2010 to Jan 2013, where he developed two real-time systems of co-registered ultrasound and photoacoustic imaging using a novel idea of FPGA-based reconfigurable processor. His first publication in the IEEE Transactions in Ultrasonics, Ferroelectrics, and Frequency Control appeared in the top accessed articles in Nov. 2012 and four times in the editor's selection of highly cited articles last in Jan 2014. Dr. Umar Alqasemi is a member of SPIE and IEEE EMBS, and a reviewer in SPIE Journal of Biomedical Optics since 2011.

**Date:** **Monday, March 28, 2016**
**Time:** **1:00 PM**
**Venue:** **Engineering Building, Second floor, Room 24C28 (ECE Seminar Room)**

## Title

## Simulations of Multiphysics Environments Using COMSOL 5.2

## Abstract

COMSOL Multiphysics is a software that enables easy finite-element method based simulations of multiphysics 4-D environments without going through the math rigor of the method itself. It has a nice GUI (graphical user interface) that makes it never easier to define the geometry, physics and its parameters involved in each part of it, initial and boundary conditions, and mesh structure and size. In the seminar, the software will be introduced by showing sets of examples, the first two will be thorough about microfluidic structure design, and propagation of light in tissue-like structure (diffusive regime). Other examples will be introduced briefly as time allows including simulations of electric circuits, light bulb, heat sink, pacemaker electrode, piezoelectric transducer, moving magnet, cylinder flow, and wrench stress.

**ALL ARE CORDIALLY INVITED**