Novel diagnostic and predictive tools for cardiovascular diseases
Zahra Keshavarz Motamed, Ph.D.

Abstract: Cardiovascular disease is the first leading cause of death worldwide. Early detection and accurate quantitative diagnosis of cardiovascular diseases and predicting patient outcome are of primary importance for success of clinical interventions. In the clinical practice, several invasive and non-invasive methods have been used to meet diagnostic and predictive needs. However, despite advances in these methods and also in interventional techniques, the long-term results are not always satisfactory and cardiovascular diseases are still associated with considerable post-procedure morbidity and mortality. Dr. Motamed’s talk will be on the advancement of methods to quantify complex cardiovascular fluid and solid mechanics phenomena to understand the mechanisms underlying cardiovascular pathologies. This understanding can provide life-saving answers to clinical questions. She will also cover new non-invasive diagnostic and predictive tools for valvular and vascular cardiovascular diseases to improve clinical diagnosis and patient outcome. These tools are also used to re-classify the diseases and to establish guidelines for treatment.

Bio: Dr. Zahra Keshavarz Motamed is a postdoctoral research fellow in the Institute for Medical Engineering & Science and Harvard-MIT Division of Health Sciences and Technology at Massachusetts Institute of Technology (Cambridge, USA). She received her Ph.D. in mechanical engineering from Concordia University (Montreal, Canada) in 2012. From January 2013 to September 2014, she was a part-time faculty/adjunct professor in the department of Mechanical and Industrial Engineering at Concordia University. Furthermore, she was a postdoctoral fellow in the department of biomedical engineering at Laval University (Quebec, Canada) from January 2012 to March 2014.

Dr. Motamed’s research interests are in the areas of translational and basic cardiovascular science. Her work is dedicated to obtaining fundamental understanding, developing diagnostic tools and developing devices to help patients with cardiovascular diseases. In her research, she uses and advances knowledge in biomechanics, fluid mechanics, solid mechanics, medical imaging, mathematical modeling and computational mechanics. Her research involves in vitro experimentation as well as in vivo animal and human studies. Furthermore she collaborates with clinicians and companies to reclassify cardiovascular diseases, to establish treatment guidelines and to translate engineering-based finding and developments into clinical practice.

Dr. Motamed has always been dedicated to be an effective and motivated teacher. She taught various fundamental and applied courses. Moreover, she has supervised several graduate and undergraduate students. She also has 7 years of industrial experience with a proven record of leadership and project and team management.

Date: March 7, 2016
Place: CB 118

Time: 3:00 to 4:00p
Contact: Dr. Alexandre Martin 257-4462

Meet the speaker and have refreshments
Attendance open to all interested persons