FIU Engineering & Computing
Biomedical Engineering

Join Us
Friday, April 3, 2020

Wallace H. Coulter Foundation
Biomedical Engineering Seminar Series

DR. MARTINE LABERGE serves as Professor and Chair of Bioengineering at Clemson University and Director of the Biomedical Engineering innovation Campus (CUBEInC) in Greenville, SC. She received MS and PhD in Biomedical Engineering degrees from University of Montreal, and completed post-doctorate work in Mechanical Engineering at University of Waterloo, before joining the bioengineering faculty at Clemson University. She has numerous publications on the tribological performance of orthopaedic and vascular implants and is an inventor on several licensed patents. Since the beginning of her career, she served as the major advisor of 85 PhD and MS bioengineering students managing a research program exceeding $12M. She served as President of the Society For Biomaterials (SFB) and received its Inaugural Service Award. She is a Fellow of the American Institute for Medical and Biological Engineering (AIMBE) and the Biomedical Engineering Society (BMES). She was inducted Fellow, Biomaterials Science and Engineering by the International Union of Societies for Biomaterials Science and Engineering. Dr. LaBerge received the South Carolina Governor's Award for Scientific Awareness for major program development. She received the Inaugural Herbert Voigt Distinguished Service Award from BMES and the SEMDA Spotlight Award recognizing her contributions to the development of the Southeastern medical device community.

DR. MARTINE LABERGE

Professor and Chair of Bioengineering

Clemson University, Montreal, Quebec

Managing Atherosclerosis:
A BIOENGINEERING PLATFORM FOR EDUCATION, RESEARCH, AND ECONOMIC DEVELOPMENT

ABSTRACT: According to the American Heart Association (2019), approximately 8.5 million people age 40 and older in the United States (7.2%) suffer from peripheral arterial disease (PAD). The clinical repair of atherosclerotic peripheral arteries commonly includes the use of intravascular stents in conjunction with or without balloon angioplasty and bypass surgery. Despite major advances in research, restenosis remains a major cause of implant failure. Different models to explain vascular implant restenosis have been proposed with a major emphasis on the contribution of vascular injury due to the penetration of stent struts into the arterial wall, material selection, and others. Additionally, hemodynamic factors such as areas of re-circulation, flow separation, and wall shear stress gradients have been associated with myointimal thickening. The geometry of a stent severely influences stresses on the arterial wall and on hemodynamic factors. Our research program is aimed at developing in vitro and in vivo models to better understand the effect of implant design on potential clinical outcome and proposing technology to improve the management of peripheral vascular diseases. This presentation will focus on novel work addressing vascular device design factors including drug delivery mechanism to mitigate short and long term failure and the impact of vascular engineering research as a platform for education, innovation, and entrepreneurship.

Wallace H. Coulter Foundation

Through the generous support of the Wallace H. Coulter Foundation the Department of Biomedical Engineering facilitates weekly lectures each year during academic terms. Experts in all areas of Biomedical Engineering are invited to campus to provide a research seminar and to meet with faculty and students and to tour our academic and research facilities.

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9:00AM-10:00AM Room EC 2300