Computational Continuum Mechanics Research Group
Department of Human Biology
Cape Universities Body Imaging Centre

Invite to a

WORKSHOP

on

Research Challenges in the Mechanobiology of Inflammatory Heart Diseases

Scope: This workshop aims at introducing a multidisciplinary research project funded by the NRF Blue Skies Programme which endeavours to aid development of new therapy concepts for inflammatory heart diseases. The research aspires to supersede traditional approaches by combining clinical work, medical imaging, mathematically modelling and developing of computer codes.

Date: Friday, 18^{th} November 2016
Time: 11h00 - 13h00
Venue: Anatomy Building, LT3
Medical Campus, University of Cape Town

Programme

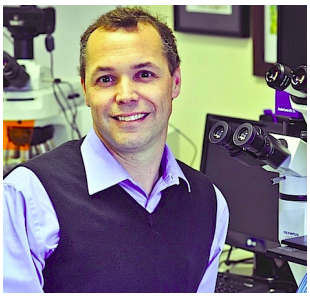
1. Dr Sebastian Skatulla, "Introduction to Computational Cardiac Mechanics"
2. Prof Ntobeko Ntusi, "Understanding Inflammatory Heart Disease and Cardiomyopathy: Advanced Multimodality Imaging"
3. Dr Tertius Kohn, "Understanding Bio-engines - Techniques to Assess Fuel Supply, Structure and Performance of Muscle"

ALL WELCOME

Prospective postgraduate students are particularly encouraged to participate.

Dr Sebastian Skatulla

Sebastian Skatulla is a Senior Lecturer of Structural Engineering and Mechanics in the Department of Civil Engineering and the Centre for Research in Computational and Applied Mechanics (CERECAM) at the University of Cape Town. He graduated as Diplom Bau-Ingenieur (TH) from the Karlsruhe Institute of Technology (KIT) in 2003. He was awarded his PhD degree in Mechanical Engineering from the University of Adelaide in 2007. He is the Director of the Computational Continuum Mechanics Research Group (CCM) which has its current research activities centred in computational biomechanics with an emphasis on cardiac mechanics. Recently, the group started exploring the poroelasticity of Antarctic sea-ice and corrosion of reinforced concrete. Core part of these research activities is development of the in-house structural analysis software package SESKA.
He is the President of the South African Association for Theoretical and Applied Mechanics (SAAM), a Director of the International Society for Computing in Civil and Building Engineering (ISCCBE) and represents South Africa on the Scientific Council of the International Centre for Mechanical Sciences (CISM).



Dr Tertius A. Kohn

Tertius A Kohn graduated with a PhD in Biochemistry from Stellenbosch University in 2005. His dissertation focussed on skeletal muscle adaptation using human and rat models. He completed a postdoc at the University of Cape Town (UCT) focussing on glucose transporter expression, mitochondrial biogenesis and the regulation thereof by exercise. He currently has a C2 rating from the National Research Foundation of South Africa and is a member of the American Physiology Society since 2008.
He currently coordinates a unique laboratory within the Department of Human Biology that studies muscle contraction, structure and metabolism on gross and single muscle fibre level. His research focuses on muscle function and how genetics and/or exercise training or diseases influence its performance capacity. Specifically, why do particular ethnicities excel in certain sporting codes? What is fundamentally different in the muscles of a lion vs. a wildebeest, and how to apply it to human performance? Additionally, how do muscle diseases (acquired or congenital) reduce muscle function or lead to life threatening conditions (e.g. exertional heatstroke, capture myopathy, insulin resistance), and how can they be prevented or treated? (For more information, visit www.myolab.co.za).

Prof Ntobeko Ntusi

Prof Ntobeko Ntusi is a cardiologist and professor of Medicine. He is the Head and Chair of Medicine and Clinical Lead for Cardiovascular Magnetic Resonance and Cardiovascular Computed Tomography at the University of Cape Town. He obtained a B.Sc(hons) degree in Cellular and Molecular Biology from Haverford College, USA, and an MB.ChB degree from UCT, before completing a fellowship in Internal Medicine and a certificate in Cardiology through the Colleges of Medicine of South Africa. He served his internship and later worked as a community service medical officer and senior house officer at Frere Hospital in East London, South Africa. He read for a D.Phil in Cardiovascular Medicine at the University of Oxford, and completed his MD in Cardiology at UCT. Dr Ntusi has co-authored 6 book chapters and over 60 peer-reviewed publications with over 1,000 citations, and is a subeditor of the South African Heart Journal and a section reviewer on UpToDate.

Prof Ntusi has been actively engaged and contributed to improved understanding of cardiomyopathy, inflammatory heart disease and heart failure in South Africa and abroad. His research interests are focused on the use of advanced cardiovascular imaging techniques to stratify phenotypes and study disease mechanisms in cardiomyopathy and inflammatory heart disease. He has promoted education and efforts to combat cardiovascular disease in South Africa, the African continent and internationally, through his activity in the South African Heart Association, Pan African Society of Cardiology, the Society for Cardiovascular Magnetic Resonance, the European Society of cardiology and other scientific bodies. He supervises masters, PhD and medical students on cardiovascular and heart failure related projects. He is invited as faculty to the scientific sessions of many international conferences and meetings. He is a Director of a CMR course that aims to build capacity for CMR practice on the African continent. He has established the South African CMR registry and collaborates on the global GCMR registry.