



**Centre for Biosystems Science and Engineering**

# **S E M I N A R**

**at 4:00 PM on August 21, 2017**

**MRDG Seminar Hall, 1<sup>st</sup> floor Biological sciences building**

**Cell Structure and Systems Biology in Heart Disease**

**Dr. Vijay Rajagopal**

Senior Lecturer, Dept. of Biomedical Engineering, University of Melbourne

In this talk I will give a broad overview of one of the research themes in my research group: how and why do heart cells change their shape and internal organization when hearts are malfunctioning. Are structural changes an attempt to compensate for disease? We use a combination of experimental measurements and novel computational models to answer these questions in the context of diabetes induced-cardiomyopathy and cardiac hypertrophy. I will also present our broader plans to bring sub-cellular spatial organization into cellular systems biology.

**About the speaker:**

Vijay Rajagopal is a Senior Lecturer at the Department of Biomedical Engineering, University of Melbourne. Vijay was born and raised in Chennai, India before emigrating to New Zealand in 1995. He completed his PhD in 2007 at the Auckland Bioengineering Institute, University of Auckland, New Zealand. He subsequently did his post-doc at the Singapore-MIT Alliance for Research and Technology in Singapore and Boston, MA before his role in Melbourne. The overarching interests of his research group, the Cell Structure and Mechanobiology group ([www.cellularsmb.org](http://www.cellularsmb.org)<<http://www.cellularsmb.org>>) are to use experimental and computational approaches to unravel the mechanical and chemical mechanisms that underlie cellular and tissue remodeling.

[www.be.iisc.in/seminars.html](http://www.be.iisc.in/seminars.html)