

# BioSyM Seminar Series 2018

## Understanding heterogeneity of human Mesenchymal Stem Cells (hMSCs)

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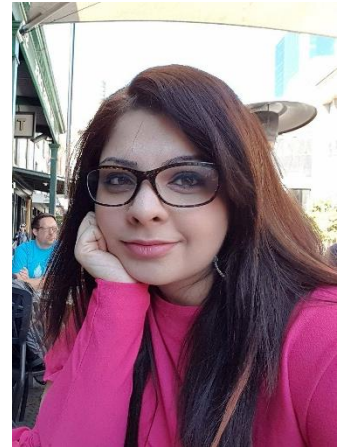
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**Date** : 09<sup>th</sup> April 2018, Monday

**Time** : 12 pm to 1 pm

**Venue** : Level 5, Perseverance Room



### **Abstract**

Large-scale *in vitro* expansion is required for many *in vitro* and *in vivo* applications of human mesenchymal stem cells (hMSCs). The current methods of stem cell identification and population expansion can result in morphological and functional heterogeneity in the cellular populations. The various factors affecting the heterogeneity of hMSCs *in vitro* are the culture conditions including but not limited to the cell seeding densities, substrate properties, CO<sub>2</sub> composition, humidity, temperature and media composition. In the current work, we have looked at the effect of Fetal Bovine Serum (FBS), an essential additive of the hMSC culture media and signaling factors from the subpopulations of hMSCs on the growth and proliferation of hMSCs cultured at the plate level *in vitro*. Understanding the heterogeneity of hMSCs is imperative in designing strategies for using the cells to their maximum potential for specific clinical applications.

### **Short Biography**

Vipra joined SMART-BioSyM in 2016 as a postdoctoral associate in Krystyn's group. Previously she has completed her doctoral studies at the School of Materials Science and Engineering at Nanyang Technological University, Singapore. Her current research work includes studying the heterogeneity of mesenchymal stem cells derived from the bone marrow and understanding the properties of their inherent subpopulations.