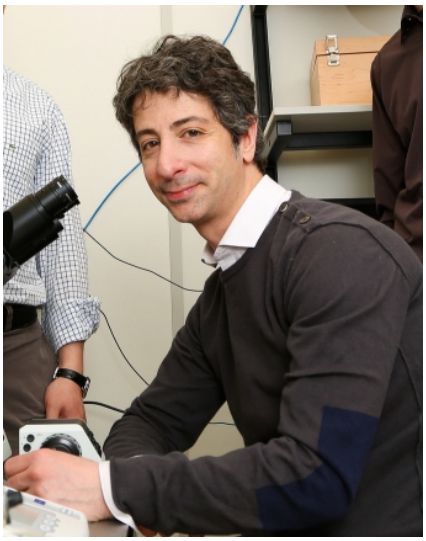
a place of mind

THE UNIVERSITY OF BRITISH COLUMBIA

Department of Cellular and Physiological Sciences



Sevan Hopyan, M.D

Sick Kids

Orthopaedic Surgeon

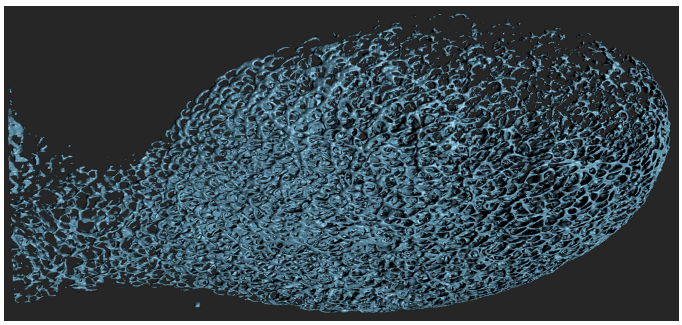
Orthopaedic Surgery

****CPS SEMINAR TIME****

12:30 PM Thursday, April 11, 2019
Location: LSC3
Hosted by Dr. Joy Richman

"Approaches to studying morphogenesis in the mammalian embryo"

Organ primordia develop into nuanced shapes that are relevant to their postnatal functions. Although mechanisms that shape tissue sheets are increasingly understood, those which shape a volume of confluent cells as in the branchial arches and limb buds remain relatively obscure. Members of my lab collaborate with others in the physical sciences to combine genetic and biophysical approaches to address questions of morphogenesis in the mouse embryo. These approaches include genetically encoded sensors to measure cellular forces and magnetic devices to measure tissue properties. Relevant parameters include cortical forces, liquid-solid phase transitions and tissue stiffness as drivers of mesenchymal cell movements. Genetic loss and gain of function approaches suggest that Wnt5a spatially coordinates these parameters, and YAP/TAZ and PIEZO1 serve as downstream effectors to promote and orient mesenchymal cell intercalations. The morphogenesis community is incrementally advancing our grasp of how developmental pathways regulate biophysical properties and forces that shape tissue.



Join us for coffee and cookies at Noon in LSC 1416!!!

For more information please contact Dr.Richman<richman@dentistry.ubc.ca>