

# Biology Seminar

12:30 - 1:30 pm

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Via ZOOM



**Ian Scott**

Professor

Department of Molecular Genetics

University of Toronto

## **GATA4/5/6 family transcription factors are conserved determinants of cardiac versus pharyngeal mesoderm fate**

GATA4/5/6 transcription factors play essential, conserved roles in heart development. To understand how GATA4/5/6 modulate the mesoderm-to-cardiac fate transition, we labelled, isolated, and performed single-cell gene expression analysis on cells that express gata5 at

mesendoderm-derived lineages had dynamic gata5/6 expression. In the absence of Gata5/6, the population structure of mesendoderm-derived cells was substantially altered. In addition to

pharyngeal mesoderm. Moreover, Gata5/6 loss led to extensive changes of chromatin accessibility

possesses a single GATA4/5/6 homolog, revealed that GATA4/5/6 acts upstream of *tbx1* to exert essential and cell-autonomous roles in promoting cardiac and inhibiting pharyngeal mesoderm identity. Overall, cardiac and pharyngeal mesoderm fate choices are achieved through an evolutionary conserved GATA4/5/6 regulatory network.

