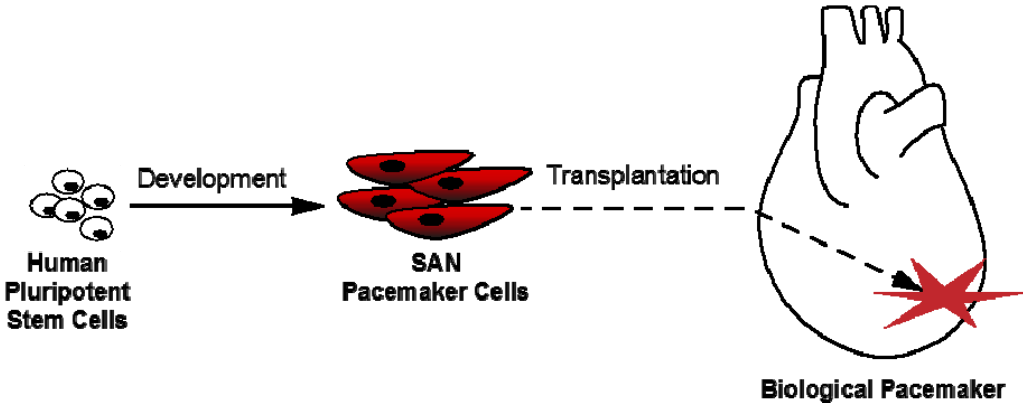
GUEST SPEAKER SEMINAR

Molecular Genetics
UNIVERSITY OF TORONTO

Translating human heart development to novel biological pacemaker therapies



The Sinoatrial node (SAN) is the primary pacemaker of the heart and is responsible for initiating a regular heartbeat. SAN failure leads to life threatening arrhythmias and is currently treated by implantation of electronic pacemaker devices. These devices do have disadvantages including lack of autonomous response, need for recurrent battery replacement and limited adaption to growth in pediatric patients. Stem cell-derived biological pacemakers could overcome these disadvantages and represent an attractive future therapy. Therefore I spearheaded a project that studied the pathways governing the development of SAN pacemaker cells from human pluripotent stem cells and established a differentiation strategy resulting in highly enriched populations of pacemaker cells. Importantly, we also provided first proof of principle that these stem cell-derived pacemaker cells can function as biological pacemaker in vivo.

Dr. Stephanie Protze
Candidate for Faculty Appointment
McEwen Centre for Regenerative Medicine

Host: Dr. Leah Cowen

Date: Tuesday July 31, 2018
Time: 10:00 AM
Place: Medical Sciences Building, Room 4171