

Melbourne, Australia
Department Heart Regeneration

At the department of Heart Regeneration (MCRI, Melbourne) we use **Pluripotent Stem Cells** (PSC) to grow cardiomyocytes (heart cells) and **3D cardiac organoids**. These organoids closely resemble the in vivo heart and are used to assess several parameters of heart function, such as force-of-contraction and electrophysiological properties. Recently, a new exciting project was set up to study **lysosomal storage diseases** that result in **restrictive cardiomyopathy**. Restrictive cardiomyopathy is characterized by stiffening and impaired relaxation of the left ventricle wall, resulting in **diastolic dysfunction** (impaired filling of the heart) and heart failure. You will use **patient-derived** induced PSCs to grow and analyze cardiac organoids to model restrictive cardiomyopathies and diastolic dysfunction. Moreover, **biochemical techniques** (immunohistochemistry, flow cytometry, etc.) will be used to study the impaired processing and accumulation of lipids in the lysosomes of cardiomyocytes.

With this exciting project we hope to model diastolic dysfunction of the heart in vitro for the first time. If you're interested in being part of this project, and, preferably, you already have some experience in (stem) cell culture / cell biological techniques (qPCR, westernblotting, etc) don't hesitate to contact me.

The Heart Regeneration department consists of ~15 people (amongst others 6 postdocs & 4 PhD students) and offers a fun and competitive scientific environment. Obviously, Melbourne, being ranked no. 2 of most livable cities, has a lot to offer and is a great place to spend 6-9 months.

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