

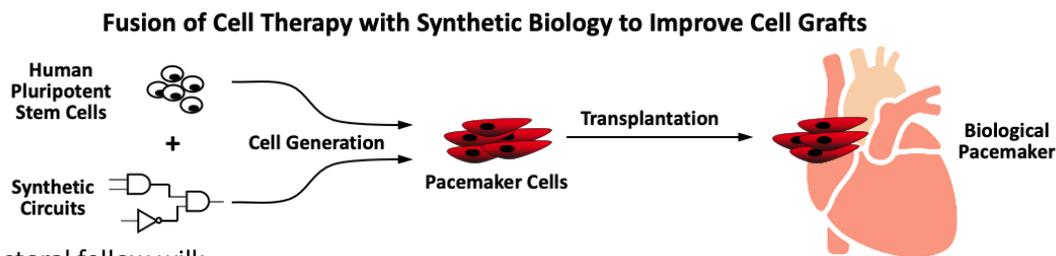
A **post-doctoral position** is available in the laboratory of [Dr. Stephanie Protze](#). The Protze lab is located in downtown Toronto and affiliated with the [McEwen Stem Cell Institute](#) at the University Health Network and the [Department of Molecular Genetics](#) at the University of Toronto. We study development and diseases of the human heart with a specific focus on the cardiac conduction system that regulates the heartbeat. We are using pluripotent stem cells, single cell transcriptomics, and electrophysiology assays to study heart development and diseases in a petri-dish. We also explore the application of the stem cell-derived conduction system cells as biological pacemakers in cell therapy approaches to treat heart rhythm disorders.

We offer

- A welcoming, dynamic, international team with cross-disciplinary expertise in pluripotent stem cell biology, developmental biology, cardiac electrophysiology and synthetic biology
- The opportunity to work at the forefront of stem cell research with a focus towards clinical translation
- The opportunity to interact with a wide network of international collaborators
- The opportunity to join Toronto's [Medicine by Design](#) community
- The ability to interact with our industry partners

We seek

A driven, motivated postdoctoral fellow for a recently funded, collaborative [project](#) that aims at combining synthetic biology approaches with stem cell research and cell therapies for the heart.



The postdoctoral fellow will:

- Perform genome-wide CRISPR screens to identify genes that increase hypoxia resistance during cell engraftment
- Test different synthetic biology circuits to activate these genes. These circuits will be developed by our synthetic biology collaborators from the [Garton lab](#) (University of Toronto)
- Differentiate human pluripotent stem cell lines into ventricular and pacemaker cardiomyocytes
- Genetically engineer pluripotent stem cell lines to carry synthetic circuits for testing in vitro and in vivo

Required qualifications

The candidate should have:

- a PHD or a MD degree
- **Expertise in molecular biology techniques (RT-qPCR, cloning, western blot)**
- **Expertise in genetic engineering using the CRISPR-Cas system**
- Effective organizational, time management, prioritization and problem-solving skills
- Strong verbal and written communications skills
- Ability to effectively work as part of a team

The following would be considered valuable assets:

- Background in cardiovascular research
- Background in computational analysis (R programming language)
- Experience culturing and differentiating human pluripotent stem cells
- Experience in flow cytometry

How to apply

If you are interested in the position, please email a cover letter and your CV highlighting the skills you would be bringing to this project to: stephanie.protze@uhnresearch.ca