



Master Thesis project at AstraZeneca, Mölndal

Title: Investigating physiological 3D approaches for advancing *in vitro* cardiovascular models

New technologies are rapidly evolving in the life sciences sector. These novel tools are enabling the advancement of *in vitro* cellular models, making them more analogous to native tissues. Within the cardiovascular safety team at AstraZeneca we see potential for integrating these technologies to improve biological relevance of our “in-a-dish” cell systems allowing us to more accurately recapitulate the patient population (i.e. disease background) to help more accurately predict drug-induced toxicology early in drug discovery enabling optimal compounds to progress into clinical development.

In this graduate role you will be at the forefront of innovative medicines working with experts across global multi-disciplinary teams in the fields of cardiac biology and toxicology, to create, evaluate and utilise novel complex cardiovascular *in vitro* models.

Specifically, you will interrogate the utility of novel cell culture approaches by generating advanced cardiovascular models (healthy or diseased) representative of the key cell types in the heart using both stem cell derived cells and primary cells.

From this cutting-edge work there is the potential for publication in high-impact journals and influence the future direction of the cardiovascular safety strategy within AZ.

Objectives:

1. Determine the utility of novel cell culture technologies for generating physiologically relevant cardiovascular models.
2. Assess the value of newly developed models by comparing drug responses from conventional cardiovascular *in vitro* approaches.

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Start date: August/September 2022