

## RenalToolBox – Project Description

<b>ESR Number:</b>	ESR13	<b>Host:</b>	NHSBT
<b>Project Title:</b>	Assessing the properties and efficacy of UC-MSCs as a therapy for renal diseases.		
<b>Research Field:</b>	Biological Sciences		
<b>Contact Person:</b>	Dr Vivien Hanson, NHSBT		
<b>Academic Supervisor(s):</b>	Dr. Antonius Plagge Dr. Arthur Taylor		
<b>Research Group / Department:</b>	Cellular and Molecular Therapies		
<b>Group's website:</b>	<a href="https://www.nhsbt.nhs.uk/how-we-help/advanced-therapies/">https://www.nhsbt.nhs.uk/how-we-help/advanced-therapies/</a>		
<b>Full Address:</b>	NHS Blood and Transplant 14 Estuary Banks, Speke, Liverpool L24 8RB Liverpool, United Kingdom		
<b>Expected Start Date:</b>	01 April 2019		
<b>Description:</b>			
<p>The RenalToolBox is an EU-funded network that aims to develop novel tools and technologies to assess the safety and efficacy of cell-based regenerative medicine therapies for kidney disease. You will join a team of 15 Early Career Researchers (ESR) working across 10 different institutions towards this goal.</p> <p>In this position you will be employed by NHS Blood and Transplant (NHSBT) and enrolled as a PhD student at the University of Liverpool (UK). Your role in this project will be to characterise umbilical cord-derived mesenchymal stromal cells (UC-MSCs) and contribute towards understanding their therapeutic efficacy in kidney diseases. More specifically, you will:</p> <ul style="list-style-type: none"> <li>- Characterise UC-MSCs in regard to their immunophenotype, proliferation rate, colony forming ability, differentiation potential and in vitro immunomodulatory capacity.</li> <li>- Determine how these properties are affected by culture media and novel bioengineered culture substrates.</li> <li>- Apply genetic engineering methods to introduce reporter genes for bioluminescence and nuclear imaging.</li> <li>- Assess their therapeutic efficacy by testing their ability to ameliorate tubular cell injury using an in vitro ciPTEC-based ischemia-reperfusion injury model (in collaboration with Utrecht University).</li> <li>- Compare UC-MSC with those derived from other sources such as bone marrow.</li> <li>- Collaborate with scientists developing in vivo models.</li> </ul> <p>The post holder will be employed on a fixed term (36-month contract) and enrolled as a PhD student at the University of Liverpool. The candidate will carry out research at NHSBT and the University of Liverpool and also be expected to spend periods of time with other partners in the consortium.</p>			

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More information about this consortium and the project can be found in [www.renaltoolbox.org](http://www.renaltoolbox.org).

### Required Skills / Qualifications:

#### Essential:

- BSc degree in a relevant subject (biomedical sciences, bioengineering, molecular biology or other related subjects) .
- Excellent oral and written communication skills with well-developed interpersonal skills.
- Ability to work effectively and collaboratively within a multidisciplinary team.
- Enthusiastic, self-motivated individual, willing to take part in personal skills training, international travel and public outreach activities.
- Demonstrated commitment to high-quality research.

#### Desirable:

- A Master's degree in biomedical sciences or a similar discipline.
- Research experience involving mesenchymal stem/stromal cells, cloning or preclinical imaging.

The candidate is also required to fulfil the research experience and transnational mobility requirements outlined in <https://renaltoolbox.org/job-positions/>

### Other requirements:

N/A