# Developing an axenic media to grow the currently uncultivable Mycobacterium leprae

**Supervisory team:**
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**Host institution:** University of Exeter (Streatham)

**Project description:**
Mycobacterium leprae is an obligate intracellular bacterial pathogen that causes leprosy in humans, a devastating infection affecting people mainly in the developing countries. The main problem is the inability to cultivate the bacteria in an axenic media under laboratory conditions that hinders research and development of novel drugs and vaccines. The aim of the project is to develop an axenic growth media to cultivate M. leprae in vitro as cultures. This project will use a combination of wet and dry lab omic-based techniques including metabolomics, metabolic modelling and fluxomics to formulate the axenic media and used it to investigate the fundamental metabolic biology of the leprosy bacillus. The project will lead to an important breakthrough for cultivating viable M. leprae in the lab that will accelerate further research on this important pathogen for discovery of new drugs and vaccines.

**Our aim as the SWBio DTP is to support students from a range of backgrounds and circumstances. Where needed, we will work with you to take into consideration reasonable project adaptations (for example to support caring responsibilities, disabilities, other significant personal circumstances) as well as flexible working and part-time study requests, to enable greater access to a PhD. All our supervisors support us with this aim, so please feel comfortable in discussing further with the listed PhD project supervisor to see what is feasible.**