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Development of Processing Strategies and Novel Hardware for Cell Therapy Production Processing

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Farlan's talk will focus on the development of robust, reproducible and cost effective production processes in the emerging field of cell therapy. His team are establishing novel processing technologies which will underpin the commercialisation of these types of products. Their work uses a whole bioprocessing and ultra scale-down methodologies pioneered at UCL to ensure that new production processes are considered as whole rather than individual operations in isolation. Farlan's group are developing new methods for the majority of steps involved in the production of cellular therapies. Current projects include the application of bioprocessing methodologies to (i) the expansion of stem cells, (ii) their directed differentiation into regenerative populations, (iii) the non-destructive dissociation of differentiated cellular aggregates into single cell suspensions, (iv) purification techniques for positive selection and (v) point-of-care processing which includes cryopreservation, shipping, thawing, washing and presentation of the final therapy ready for administration.

Biography:

Dr. Farlan Veraitch gained his Ph.D. from the University of Birmingham where his research focused on the optimisation of mammalian cell culture processes. He then moved to UCL where he worked as a Post Doctoral Research Assistant on the automation of embryonic stem cell processing. Since gaining his lectureship, and subsequent senior lectureship, Farlan has helped to establish the UCL's Cell Therapy Bioprocessing programme which has been applying ultra scale-down, bioprocess modelling and a whole bioprocess' vision to the development of robust stem cell production processes.