FUTURE TARGETED HEALTHCARE MANUFACTURING HUB

Biomanufacturing solutions to transform healthcare precision in the biotherapeutics sector

UCL Biochemical Engineering has an outstanding track record and is a world leader in bioprocess research across a range of sectors. UCL’s Future Targeted Healthcare Manufacturing Hub engages leading academics across the UK as Spokes. This national asset is valued in excess of £20M over 7 years (2017–2024).

The Hub will address the manufacturing, business and regulatory challenges to ensure that new targeted biological medicines can be developed quickly and manufactured at a cost affordable to society.

The research will span stratified protein medicines targeted to particular patient groups through to truly personalised cell-based medicines.

The Hub is unique in the biomanufacturing space, and is being supported by a large number of the leading manufacturers and suppliers in the biotherapeutics industry and non-governmental associations.

For more information on the Hub, collaboration and how to join the industrial User Group please contact: Dr. Naveraj Gill, Strategic Alliance Director, Deputy Head of Department (Enterprise) e: naveraj.gill@ucl.ac.uk, t: +44 (0) 203 549 5619
HOW CAN STRATIFIED PROTEINS AND PERSONALISED CELL THERAPIES ACHIEVE SUCCESS IN MANUFACTURING AND BUSINESS?

UCL Hub Vision
• By 2025 targeted biological medicines will transform the precision of healthcare prescription, improve patient care and quality of life.
• The current “one-size-fits-all” approach to drug development is being challenged by the growing ability to create stratified and personalised medicines targeted to specific sub-populations and even individuals.
• Without significant manufacturing and supply innovations, the promise of targeted healthcare will remain inaccessible for many. The impact on health and well-being is profound.
• The Hub will be the first globally recognised consortium for the creation, delivery and dissemination of innovative manufacturing research, underpinning cost-effective, robust manufacture, supply and delivery of targeted biotherapeutics.

UCL Hub Collaboration and Deliverables
The Hub will work with its network of users and academics to deliver the vision, with the core research focusing on:
• **Grand Challenge 1:** Transforming supply chain management and economics for targeted biotherapeutics with novel computational decision-support tools
• **Grand Challenge 2:** Sustainable manufacturing for future targeted biotherapeutics with novel bioprocesses, analytics and control algorithms

This paradigm shift in manufacturing practice will provide the manufacturing infrastructure needed for sustainable healthcare.

UCL Hub Impact
The benefits of the Hub extend beyond the users who have co-developed the proposal. Our innovations will move the reality of targeted healthcare forward significantly by identifying the necessary technological and logistical solutions. Targeted interventions will provide a step change for many patients in terms of widened access to new treatments. The range of targets is huge and includes treatments for cancers and the re-programming of degenerative disorders such as dementia. This is a radical new opportunity for the industry. The Hub will undertake rapid and effective development of new clinical medicines and promises a new horizon for the sector.

UCL HUB LEADERSHIP
**Hub Director**
Prof. Nigel Titchener-Hooker, FREng
Executive Dean of the UCL Faculty of Engineering Sciences

**Hub Co-Director (User Engagement & Translation)**
Prof. Suzanne Farid, FIChemE
Professor of Bioprocess Systems Engineering
Deputy Head of Department (Education)

**Hub Co-Director (Community Engagement & Training)**
Prof. Paul Dalby, FRSC
Professor of Biochemical Engineering & Biotechnology
Deputy Head of Department (Research)
Director of the Centre for Doctoral Training

**BENEFITS FOR HUB USER GROUP**

Research Excellence
• Access to internationally-leading academics and top research graduates with expertise in bioprocessing, decisional tools, process control and analytics, cell therapy manufacture.
• Wider collaboration opportunities within the Hub User Group via Engineering Doctorate (EngD) studentships.
• Opportunity to create a Centre of Excellence with UCL focusing on a series of linked research projects for a more holistic and synergistic approach.

Influence the Sector
• Steer the research agenda over the next 7 years, aligned to your organisation’s priorities.
• Participate in user feasibility projects to evaluate Hub outputs using your systems and processes.
• Boost your profile through joint peer-reviewed articles from user feasibility projects.
• Leverage funding for greater impact via industry-led InnovateUK projects.

Priority Access to Hub Outputs
• Early access to new process, analysis and control technologies and methodologies via the Collaboration Agreement and IP provisions.
• Benefit from novel decision-support tools providing a robust framework for selecting development and manufacturing options, thus reducing the risk of misallocating significant cost and time.
• Access to highly skilled graduating doctoral and PDRA researchers.

Traditional One-Size-Fits-All Medicines
Targeted: Stratified Medicines
Targeted: Personalised Medicines