Pre-Conference Academic Workshop Sunday 26, 13-14:30

Title: "How to develop perfusion processes?

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Abstract

Perfusion processes have become a reality for biologics biomanufacturing. The leverage and intensification that this mode of operation brings, has attracted many biopharma's towards implementation at different levels, stretching from N-1 bioreactor only to fully integrated continuous USP-DSP.

The basic principle that medium renewal operated under this continuous mode brings nutrients and removes the by-products, is known from everybody but how to develop, optimize, integrate, characterise, scale-up these processes? Which strategy adopt for process development to achieve high intensification with low medium renewal and high product quality? How much generic can a process be to fit different molecules? Which tools are needed for monitoring (PAT) and control? What is needed for a fair comparison between different modes in terms of yield, productivity, costs and time? How well do we know the effect of these processes on the cells, e.g. by omics, and what should be studied? How does the field tackle these questions today, and what is missing? What are the avenues needed for tomorrow? Compared to glycoproteins, how different are the challenges and approaches for other modalities, such as production of exosomes, viruses or viral vectors?

In this workshop, we will address these questions with talks from academia and industry and with that like to set the stage for a short discussion with the audience on these questions.

Keywords
- perfusion process
- process development
- PAT
- integrated USP-DSP
- scale-up
- omics