



Challenges in Process Analytical Technologies for Mammalian Cell Cultures

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Message from the Guest Editors

Mammalian cell cultures are the source of most biopharmaceutical therapeutics (monoclonal antibodies (MAbs), vaccines, glycoproteins, viral vectors, etc.), and the application of mechanistic and data-driven model-based software solutions has proved to significantly improve process productivity. However, some problematics remain, related to the inherent uncertainty of biosystems. Optimization methods may therefore be model-based—with some robust tolerance to model uncertainties—or model-free, using a limited a priori knowledge of process operation and without considering a full dynamic system.

This Special Issue focuses on original concepts in Process Analytical Technologies (PAT) and process monitoring, ranging from the application of instrumentation based on hardware and software sensors to the use of data-driven or model-based approaches. The submitted papers should present numerical and experimental applications for mammalian/human cell culture processes.





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