Biocatalysis – Gene to GMP

Speaker:

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Abstract:

The application of biocatalysis in pharmaceutical and fine chemical development and manufacturing continues to grow, a move that has been facilitated by the increasing commercial 'off-the-shelf' availability of enzymes for reaction screening. Recent advances in DNA technology have enabled tailoring of enzyme properties as well as access to increased biocatalyst variety at ever decreasing cost. When developing non GMP and GMP manufacturing processes involving biocatalysts, scale up challenges are frequently encountered for both biocatalyst preparation and chemical transformation. This presentation, through actual case studies, will illustrate the discovery and development of novel biocatalytic processes for carbonyl-reduction, transamination and biooxidation chemistries. Consideration of scale-up parameters and their impact on associated costings will be discussed. The presentation will show that in reality the concept of gene to GMP (Good manufacturing practices) has arrived for the process chemist.