

Leiden, January 17, 2012

Dutch Biotechnology Society, working party Downstream Processing

Working party leaders

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The goal of the Working Party Downstream Processing is to keep its members up to date with respect to (inter)national developments in their field of expertise and to create the opportunity to exchange ideas between fellow DSP specialists. This is established through, amongst others, a web site with up to date information, symposia, study days and excursions. In 2011 the working group had xx members.

Comment [MP1]: Wordt ingevuld door Ank Jansen

The working group leaders are always open to suggestions that contribute to the realization of these goals.

In 2011 the working group participated in the "NBV Werkgroependag" and organized the session *Bioprocess Development and Design*. In addition a mini-symposium was organized in November about *Biosimilars*.

Werkgroependag

The "werkgroependag", organized by the NBV, took place on April 21 in Congress Centre de Reehorst in Ede. The theme of the day was: Biotechnology 2.0: Connecting Generations. The working group DSP organized a two-hour-session about *Bioprocess Development and Design*, chaired by Jeroen den Hollander and Emile van de Sandt. Four presentations were attended by 60-70 people.

Maria Cuellar Soares (TU Delft) started the session talking about *Reversing bioprocess design: production-scale based identification of biology targets and novel process concepts*. With the microbiological production of alkanes as a case study she discussed a systematic methodology for designing an integrated bioprocess, in the light of large-scale production of biofuels.

The second in line was Maarten van de Graaf (DSM Biotechnology Center) who spoke about *Experiences of Life Cycle Analysis in Biotechnology*, and demonstrated convincingly that –for lack of generally accepted and established methods, calculations of eco- and carbon footprint may lose their value. The way in which DSM includes the entire life cycle of a product to lead to a useful analysis was the subject of a fascinating presentation.

Roderick van der Graaf (Janssen Biologics B.V.) talked about *Reliability Centered Maintenance of DSP systems*, in which a matrix is applied assessing environment, safety, quality, cost and throughput versus the risk of failure of pieces of equipment. This matrix is the basis of a maintenance strategy.

The last lecture in this session was given by AnjaSchwenzfeier (WageningenUniversity) about *Isolation of microalgae protein for applications in foods*, discussing the use of a Dynamill system for cell disruption and Expanded Bed Adsorption for the isolation of proteins from the solution.

The minisymposium Biosimilars

The mini-symposium Biosimilars took place on November 16, in Congress Centre de Eenhoorn in Amersfoort. The 45 attendees were mostly from the biotech industry and in part from Academia. After the introduction by co-chair Michel Eppink, the topic *Approaches for process development and production* was presented by Erik Kremer (DSM Biologics). *Process Intensification* was put forward as an essential ingredient for low-cost-production of Biosimilars. XD® cultivation, Expanded Bed Technology (EBA) and the integration of chromatography steps in a single unit operation were presented as the most important contributors.

The second lecture was given by Marcel de Vocht (Crucell) about *Cost-effective production of biologicals by Process Intensification*. There is a strong analogy between Biosimilar-manufacturers and vaccine manufacturers. Methods for Process Intensification were presented, but Marcel also gave valuable insight into how a solid cost-of-goods-model, in this case BioSolve® contributes to the development of cost-effective production processes.

A short break gave the opportunity for a coffee and some cross-contamination within the network.

Co-chair Marcel Ottens introduced the last speaker, Michel Eppink (Synthon), presenting *Smart developments in the field of biosimilars*. Synthon is a generics company currently investing in bringing Biosimilars to the market. Crucial in low-cost-production while maintaining critical quality attributes is High Throughput Process Development. A number of techniques that have been applied successfully at Synthon made this presentation very worthwhile.

The evening was well appreciated by the audience and ended with a "borrel".

Activities in 2012

In 2012 the working group is organizing three activities. Firstly we will contribute to the Dutch Biotechnology Conference (NBC, 16/17 april in Ede). The theme of this conference (Delivering Value: bridging science and business) in combination with Downstream Processing leads to three 3 fascinating presentations, chaired by Marc Bisschops and Emile van de Sandt.

In the evening of May 23 a mini-symposium is organized by Jeroen den Hollander and Maarten Pennings with three lectures about Spray- and Freeze drying.

The last mini-symposium of the year is in November around the topic of *Process Intensification*.

We hope that we can bring you together in one or more of these exciting events!

Maarten Pennings