Digital Age Biopharma

Thursday, November 30, 2023
Eenhoorn Amersfoort

Organized by the Dutch Biotechnological Society (NBV)
Biopharma working group

Program

18:00   Registration, Coffee & Sandwiches

18:30   Opening by Session Chairs

18:35   **Digitalization in manufacturing**
          Bianca Bussamra
          Scientist | Janssen Biologics

19:05   **Computational Fluid Dynamic simulations for efficient upscaling of stem cell production in bioreactors**
          Ramon van Valderen
          PhD candidate | Delft University of Technology

19:35   Break

20:00   **Bridging the gap between a data ocean and the equipment data**
          Bart van Loon
          Specialist Lab Information & Automation | MSD

20:30   Closing & Drinks

22:00   End

Registration:

Free for NBV members €30 for non-members nbv.kncv.nl

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Nederlandse Biotechnologische Vereniging

Digitalization in manufacturing
Bianca Bussamra | Janssen Biologics

Off-line measurements and downtime of analytical results, full personnel dependence in processes, and suboptimal exploration of big manufacturing data might impair development in bio-pharmaceutical manufacturing processes. Implementation of digital twins and new technologies (such as Raman with various purposes) can benefit the biopharma industry by amplifying the understanding and performance prediction of processes and by providing 'real-time' alerts on out of specification parameters. In this talk we will discuss how digitalization tools and new technologies can benefit the bio-pharmaceutic manufacturing processes, and aspects to consider during development phase towards commercial implementation of digital twins.

Computational Fluid Dynamic simulations for efficient upscaling of stem cell production in bioreactors
Ramon van Valderen | Delft University of Technology

To use stem cells as a therapy, a sufficient number of cells is required. As part of the TRACER consortium, we aim to upscale the production of hematopoietic stem cells from shake flasks to bioreactors. However, due to the shear sensitivity of these cells, the bioreactor operating conditions (such as agitation and sparging) have to be chosen very carefully. In this talk I will discuss how we can use Computational Fluid Dynamic simulations to better design and guid the scale-up experiments in the lab, to ultimately develop an effective stem cell production process.
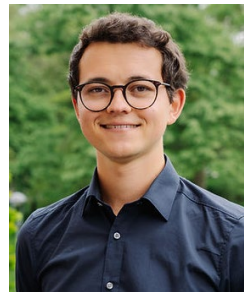
Bridging the gap between a data ocean and the equipment data
Bart van Loon | MSD

In pharma, AI, Machine learning, Digital Twins, Data Warehouses, Dashboarding and Data Analytics are hot items.
What does it actually take to combine all those buzzwords!
This talk covers the basics of what it takes before you can combine all those buzzwords, particularly the hurdles that must be overcome in the journey to obtain the right application landscape, network architecture, and ultimately the right plumbing. When combining the buzzwords, data flows from different devices to data lakes, and multiple data lakes eventually form a data ocean. The biggest problem, however, is how to get that one specific group of "fish" out of that big data ocean and properly store it in a data warehouse. There will be a deep dive into that ocean and a deep dive into the necessary essence of collecting data from various data-producing equipment, in order to draw a reliable conclusion by iteratively thinking about the data stored in that data warehouse.

Closing and Drinks

When time is up, the discussion can be continued over drinks until **22:00**.

Address	**Public transport**	**Parking**
Meeting Center Eenhoorn Barchman Wuytierslaan 2 3818 LH Amersfoort	Train **Amersfoort** *1 minute walk*	Meeting Center Eenhoorn Barchman Wuytierslaan 2 Amersfoort *€2,40/hour*

Registration:

nbv.kncv.nl/nl/biopharma-2023/nbv-biopharma-symposium-2023

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