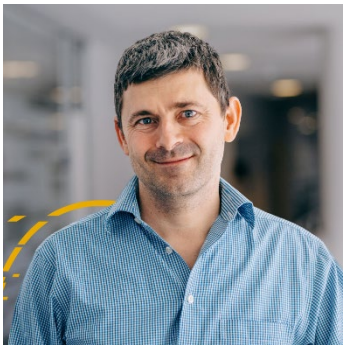
BRIAN CLARK BIOTECH LECTURE

Hosted by Prof. Poul Nissen, Dept. Molecular Biology and Genetics, Aarhus University

Thursday 19 January 2023 at 13:30

In MBG auditorium 1871-120 (Universitetsbyen 81, 8000 Aarhus)



Jesper Ferkinghoff-Borg
(photo credit: Novo Nordisk A/S)

Jesper Ferkinghoff-Borg

Director
Advanced Analytics
Digital Science & Innovation
Novo Nordisk A/S

Applied data science and analytics in early research and development

About the lecture

In this lecture, Jesper will introduce the various research areas at the Advanced Analytics department (formerly known as Modelling and Predictive Technology Dept.) at Novo Nordisk.

The Advanced Analytics department applies state-of-the-art protein modelling and data science technologies to design next generation medicines that will change the life of patients with diabetes and other serious chronic diseases.

In the department, they collaborate closely with research scientists across the R&D area to improve and accelerate active pharmaceutical ingredient (API) and drug product (DP) designs of new peptides and biologics. They have access to advanced state-of-the-art protein modelling software and are developing and applying data science tools and prediction models to a variety of biological and chemical data, including high-throughput analytical data and images.

One aspect of their work is using machine learning and deep-learning AI technology to automate semi-complex human cognitive tasks. This will supplement human analysis, allowing users to dedicate more time to analyzing complex and non-standard conditions. More powerful automation means faster and more reliable drug creation.

There are two main groups within our department.

Data Scientists (with physics, statistics or chemistry background) to develop machine learning algorithms, applied to drug design, image analysis, signal processing and statistical analysis.

Data engineers (with engineering and computer science background) ensure that our entire working infrastructure is as agile and stable as possible.

The talk will give a broad presentation of the different activities in the department and how they link to the early research & development in Novo Nordisk.

About the speaker

Jesper is Director for the Advanced Analytic department within Digital Science and Innovation at Novo Nordisk. Jesper holds a Ph.D. in theoretical biophysics from Niels Bohr Institute (2002). Following a period of postdoc positions at EMBL (Heidelberg) and NORDITA (Copenhagen), he has been affiliated as associate professor with Biomedical Engineering DTU-Elektro (2007-2011), DTU- systemsbiology (2013-2014) and KU-BRIC (2014-2016). Since joining Novo Nordisk in 2016, Jesper has worked on applying tools from biophysics, signal processing and machine learning, biophysics to enable the automation of data analysis and design optimization.

Learn more about the department, and search job opportunities, here:
https://www.novonordisk.com/careers/career-areas/research-and-development/modelling-data-scientists.html