

## SEMINARS

# Approaches to Personalised Medicine

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**Wednesday 9 February at 14.00-15.30**

Eduard Biermann (1252-204), The Lakeside Theatres, Aarhus University, Bartholins Allé 3, 8000 Aarhus C

**Doug Speed, Center for Quantitative Genetics and Genomics**

**Developing the statistical tools that enable personalized medicine**

Two major goals of personalized medicine are to use DNA to predict which individuals will develop particular diseases, and when an individual is diagnosed with a disease, use their DNA to determine the best course of treatment. The difficulty of these two goals reflects that most diseases are highly polygenic, such that 1000s or even 10,000s of genetic variants determine disease status or subtype. I will describe the attempts to advance personalized medicine from the point of the view of a statistical geneticist. In particular, I will discuss the progress in developing prediction and classification tools that accommodate polygenicity, and the (early) attempts to move these tools towards the clinic.

**Rasmus Østergaard Nielsen, Department of Public Health**

**Differences between Prediction and Causal Inference within Personalized Medicine:**

**Viewpoints from Sports Science**

In the presentation, the differences between prediction and causal inference will be discussed. Next, different causal research questions will be outlined and linked with the analytical concepts of confounding, mediation and effect-measure modification. This will fuel a discussion about the importance of effect-measure modification if the intention of our research is to better understand what works best for whom under certain circumstances (= personalized medicine). Examples illustrating the main take home messages will be provided from the Sports Science setting.

Sign up here: <https://events.au.dk/personalisedmedicineseminar3>

**Coffee and cake will be served after the seminar**

## Upcoming seminars – save the date!

**Wednesday 20 April 2022 at 14.00-15.30**

Lars Dyrskjøt Andersen, Department of Clinical Medicine  
Caroline Adolphsen, Department of Law

**Thursday 16 June 2022 at 14.00-15.30**

Torben Heick Jensen, Department of Molecular Biology and Genetics  
Jacob Giehm Mikkelsen, Department of Biomedicine