



News from the chair

I am very happy to introduce this first newsletter for the Personalised Medicine Network. It happens to coincide with another joyful event: the initiation of [whole genome sequencing of the first 12 patient groups by the National Genome Center](#), aiming to sequence 60,000 genomes over the next four years. Many researchers and clinicians throughout the country are deeply engaged in this, including many from our network who have contributed significantly over the last years to the establishment of the National Genome Center (NGC) and the NGC Sequencing Centers. Big thanks and congratulations to all of you!

We are looking forward to celebrate the first annual meeting of the Personalised Medicine Network, which is scheduled to take place in November 2021. Our annual meeting – originally planned for October 2020 but postponed due to COVID-19 – will mark the establishment of the network. We have prioritised to be able to meet in person, since physical networking promotes collaboration across disciplines and fosters new ideas, which is highly needed not least for a field so interdisciplinary as ours.

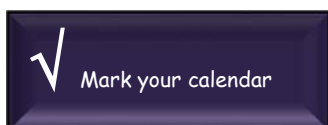
We are all quite saturated with online meetings and conferences on virtual platforms that leave little room for informal interaction. In spite of this Zoom fatigue, we had a very informative and engaging virtual meeting with Innovation Fund Denmark in January (meeting initiated and co-chaired by Torben Ørntoft), which spurred excitement and new grant applications.

We are also looking forward to revive our seminar series “Approaches to Personalised Medicine at Health” in September. This will (hopefully) also be in-person events allowing for interactions and discussions in small groups. In the meantime, we suggest that you check out [our website](#), where you can find information about upcoming activities in the network and news from the personalised medicine field.

Anders Børglum

First annual meeting | November, 2021

The first annual meeting for the Personalised Medicine Network will take place in November 2021 at Aarhus University. The date will be announced soon. For the latest updates, please visit [our website](#) that will regularly be updated with information about the annual meeting.



CONNECT can help strengthen your research in personalised medicine

Working with and combining various types of health data can be a rather complex task, but help is now at hand. Center for Clinical and Genomic Data – in short ‘CONNECT’ – advises researchers on the use of health data in personalized medicine research. In practical terms, CONNECT offers up to 10 hours of research support free of charge to researchers from Aarhus University and Central Denmark Region.

CONNECT is a cross-organizational collaboration between AU, AUH, and Central Denmark Region and brings together specialists from the departments of Clinical Epidemiology, Molecular Medicine, and Clinical Genetics. However, the purpose of CONNECT is also to serve as a network that connects researchers with specialists from other professional fields at AU and in the region. By doing so, CONNECT is able to assist in any stage of the research lifecycle. For more information, see the [CONNECT website](#).

New master’s programme in personalised medicine



Aarhus University has in collaboration with the University of Copenhagen, Aalborg University, the University of Southern Denmark, and the Technical University launched a new professional [master's degree programme in personalised medicine](#). The personalised medicine field has undergone an enormous development during recent decades, but the current understanding

among health professionals is an impediment to the continued development and integration of precision medicine into clinical practice. The aim of the new master's programme is therefore to better equip clinicians and researchers working with personalised medicine through a 60 ECTS-credits further education. The master, which can be completed part-time over two to six years, contains both mandatory and elective elements and provides the students with a fundamental understanding of personalised medicine.

[Read more about the new master’s programme in personalised medicine](#) and check out the [introductory video](#) (in Danish). The first students will be enrolled in September 2021 and [application deadline is 1 May 2021](#). Please spread the message and encourage relevant healthcare professionals to apply.

National Health Data Science Sandbox

The Novo Nordisk Foundation has granted 17.7 million DKK to the project “National Health Data Science Sandbox for Training and Research” that aims at developing a so-called “sandbox”, where

researchers and students from all over Denmark can be trained in health data science and analytics. This is done using synthetic data similar to real data and tools for high performance computing, thereby eliminating the risk of personal information leakage. The sandbox is a national collaboration between all five Danish universities, where AU is responsible for coordinating tools and data in genomics as well as online teaching tools. [Read more about the Novo Nordisk Data Science Initiative](#) behind the grant.

TIMESPAN

Ditte Demontis is heading the genetic work package in a large international research project [TIMESPAN](#), which aims to advance the management of obesity, Type-2 Diabetes and cardiometabolic disease in patients with Attention Deficit Hyperactivity Disorder (ADHD). The project is supported with a Horizon 2020 grant from EU of 45 million DKK.

Stimulant medications are first line treatment for ADHD and have proven effective in reducing ADHD core symptoms and risk of several negative outcomes such as injuries, accidents and risk of substance use disorder. Despite this, ~50% of ADHD patients that initiate stimulants discontinue treatment within two years, with poor treatment response and side-effects being the most common reasons. The biological mechanisms underpinning medication discontinuation are not well understood, and the aim of the genetic work package is to identify common and rare genetic variants involved in ADHD medication discontinuation and evaluate how genetics associated with medication discontinuation affects cardiometabolic risk in ADHD. The project entails analyses of comprehensive genome-wide data generated by the iPSYCH consortium including more than 130,000 genotyped individuals (22K ADHD cases), which can be linked to information about ADHD medication use in the National Danish Prescription register.

The TIMESPAN consortium unites a strong, multidisciplinary team of 17 partners from academia, small and medium-sized enterprises (SMEs), patients and care providers, including many research groups with a leading international position in their discipline. [See also TIMESPAN at Twitter](#).

New PhD course in personalised medicine

Graduate School of Technical Sciences is offering a new PhD course “Analysis of GWAS data with a focus on prediction of complex traits” in September 2021. [Read more about the PhD course](#), which is led by Professor Luc Janss, Professor Doug Speed, and Senior researcher Peter Sørensen from Department of Quantitative Genetics and Genomics, and aims at teaching students the methods being used to analyse data from genome-wide association studies (GWAS). For more information and questions, please contact Doug Speed doug@qgg.au.dk.

New Precision Diabetes Medicine Award

On occasion of the 100th anniversary of the discovery of insulin, the European Foundation for the Study of Diabetes and the Novo Nordisk Foundation have announced a new award: the European Foundation for the Study of Diabetes and Novo Nordisk Foundation Precision Diabetes Medicine Award. [Read more about the award](#) that recognizes innovative research from both clinicians and basic scientists in precision diabetes medicine. The application deadline is 17 May 2021 at noon.

Ongoing research within personalised medicine at AU faculties

PhD student [Morten Aagaard Nielsen](#) and MD PhD [Tue Wenzel Kragstrup](#) from Department of Biomedicine, Health, and AUH published a [paper in *American College of Rheumatology \(ACR Open\)*](#), suggesting that it is the composition of cells in the joint of the individual patient with rheumatoid arthritis, psoriatic arthritis, or spondyloarthritis, which determines whether the medicine is effective.

As PhD student in 2020, now clinical Associate Professor [Ninna Aggerholm-Pedersen](#) from Department of Clinical Medicine, Health, and AUH was awarded the Danish Cancer Society's Young Talented Researcher Grant of 2.3 million DKK. [Read more about the grant](#) that was given to investigate which sarcoma cancer patients can benefit from personalised medicine.

Professor [Jørgen Kjems](#) from Department of Molecular Biology and Genetics and iNANO, Natural Sciences, co-authored an article in *Nature* that describes the international research initiative [LifeTime](#). [Read more about the initiative](#) that involves more than 50 universities in Europe and aims at combining single cell analysis with artificial intelligence and personalised medicine models.

Professor [Kurt Vesterager Gothelf](#), Professor [Jørgen Kjems](#), Associate Professor [Ken Howard](#), and colleagues from Center for Multifunctional Biomolecular Drug Design (CEMBID), Natural Sciences, are currently working on developing new multifunctional drugs that combine two and more functions in one single drug. [Read more about the research project](#) that uses small pieces of DNA to combine functions. The project, which is funded by a 5-year research grant of 60 million DKK from the Novo Nordisk Foundation, expects to start patient tests in 2024.

Associate Professor [Edzard Spillner](#), Technical Sciences, and Professor [Gregers R. Andersen](#), Natural Sciences, and colleagues showed by electron microscopy in a [study published in *Allergy*](#) that the three-dimensional structure of the antibody IgE is fixed rather than flexible, as opposed to other antibodies. IgE plays a key role in allergy, and the current findings may pave the way for the development of new types of allergy medicine.

In 2020, [Lars Henning Pedersen](#) was appointed Professor at Department of Clinical Medicine, Health, and AUH. [Read more about his research](#) that focuses on creating a basis for increased use of personalised medicine in treatment of pregnant women.

In 2020, [Thomas Lykke-Møller Sørensen](#) was appointed associate Professor at the former Department of Engineering, Technical Sciences. Today, Thomas is heading a research group at the new Department of Biological and Chemical Engineering within medical biotechnology. [Read more about his research](#) that focuses on organoids developed from stem cells (*i.e.* miniaturized copies of human organs).

Current funding opportunities within personalized medicine

The Novo Nordisk Foundation has an open call within their “Data Science Initiative”. Application deadline is 4 May 2021:

[Data Science Research Infrastructure 2021](#)

Upcoming events

5 May 2021	PM seminar: Multiscale imaging of basal cell dynamics in the lactating mammary gland by Dr Felicity Davis, University of New South Wales
November 2021	First annual meeting for the Personalised Medicine Network
Autumn 2021	Seminar series “Approaches to Personalised Medicine at Health

Your input would be appreciated

The Personalised Medicine Network would like to share and promote all relevant news and activities within the network via our newsletter.

We therefore encourage you to submit any input and news of interest to the network (e.g. publications, grants, conferences, seminars, open positions) to Anja Einholm ape@au.dk.

Deadline for input to the next newsletter: **15 September**
