



Danish National Research Foundation Center for Functional Genomics and Tissue Plasticity ATLAS

Highlights Summary 2019

The overarching aim of the Center for Functional Genomics and Tissue Plasticity (ATLAS) is to obtain detailed mechanistic understanding of how the different cell types in the liver and adipose tissue change their functions during diet-induced obesity and regression in mouse models; and to translate this for in-depth understanding of human liver and adipose tissue plasticity in response to severe obesity and reversal following bariatric surgery. This can form the basis for better diagnosing and treatment of e.g. fatty liver disease. Highlights from 2019 include:

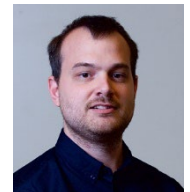


First ATLAS Symposium:

In late June 2019, ATLAS organized a multidisciplinary symposium in Denmark on the topic of tissue plasticity and obesity. We had invited a wide range of international top scientists as lecturers and around 80 researchers from both Denmark and abroad participated. The location was Hindsgavl Castle, Middelfart which turned out to be the perfect setting for a conference. The 40.000 m² garden also worked really well for the “Park Sessions”, where we gathered in small groups at different places in the park to discuss hot topics in the field. The symposium also featured short lectures by younger researchers as well as a poster session. We have received very positive feedback during as well as after the symposium, and participants asked whether the symposium could be repeated.

Recruitment of skilled bioinformatician for ATLAS:

In the spring of 2019, Jesper Grud Skat Madsen was recruited to ATLAS as Junior Group Leader in bioinformatics. Jesper has a background in experimental molecular biology but is now focusing on bioinformatic analyses and development of new bioinformatic tools for analysis of the regulation of gene expression. Among others he is playing an important role in development of new tools for analysis of single cell sequencing data.



The Danish Science Festival (*Forskningens døgn*):

The Danish Science Festival was a great opportunity for dissemination of our basic research and for showcasing how it contributes to solving problems in society. The festival was celebrated April 27 at University of Southern Denmark, and here ATLAS had organized a very popular mini lab where one could purify DNA from fruits. There was also a possibility to get guided tours in the laboratories. Krag Group (representing Center for Liver Research - FLASH) participated with a stand where they offered liver cakes and scanning of the liver with mobile fibro scanner measuring the stiffness of the liver. ATLAS was also represented at the Hospital of South West Jutland in Esbjerg. On April 23 the hall of the hospital was filled with music, stands, and lots of talks about research. Here our Krag Group in Esbjerg explained about the PROMETHEUS project on liver disease in severely obese people.



TSE PhenoMaster:

In the spring 2019, ATLAS purchased the TSE PhenoMaster and 16 new cages for mouse experiments were installed in the animal facility at The University of Southern Denmark. The metabolic cages enable us to, among other things, measure the weight of the mice, how much they drink and eat, how active they are and how much energy they use. The system also includes a program that can regulate temperature, light, and humidity during measurements. These new cages were purchased as part of the co-financing from SDU and are essential for the work of ATLAS.