Aberrant DNA methylation in myeloproliferative neoplasms

A PhD project from Health, Aarhus University looks into how aberrant DNA methylation profiles of sorted blood cells might contribute to the phenotypes of the chronic myeloproliferative neoplasms. The project was carried out by cand.scient. Helene Myrtue Nielsen that will defend her dissertation Thursday the 17th of December 2015 at 14.00 o'clock at Aarhus University, Building 1231, room 424 (Lille Anatomisk Auditorium).

Epigenetics refers to the heritable changes in gene expression that are not caused by any changes in the DNA sequence where DNA methylation is the most well characterized epigenetic modification. During cancer transformation the DNA methylation pattern changes. Establishing the DNA methylation profile of individual cancers not only give us a better understanding of how cancer cells are different from healthy cells but might also be useful in clinical settings as DNA methylation is a stable molecule that can be used as a biomarker of diagnostics and prognostics value and may in addition be used to predict treatment outcome. Importantly epigenetic modifications are reversible and so-called epi-drugs are today used to treat other hematological cancers. This PhD project has through genome-wide analysis established the aberrant DNA methylation profile of myelofibrosis and idiopathic hypereosinophilic syndrome and identified differentially methylated regions that might be able to differentiate patients with essential thrombocytosis from patients with reactive thrombocytosis.
Everybody is more than welcome and for further information contact Helene at hmyrtue@biomed.au.dk.