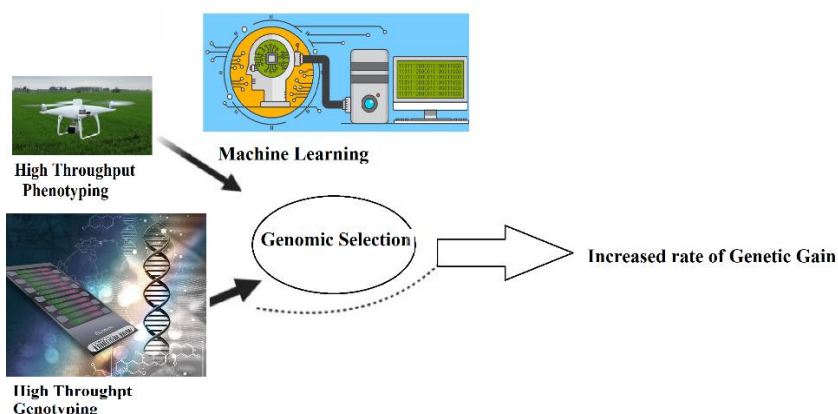


Topic/Title (Norwegian)

Multi-trait genomisk prediksjon av komplekse egenskaper i hvete basert på tidsserier av multispektrale data

Topic/Title (English)

Multi-trait genomic prediction of complex traits in wheat using multispectral time-series data



Summary

Genomic selection (GS) has emerged as an important tool for plant breeders to select superior genotypes. Many attempts have been made to improve the GS by incorporating high throughput phenotyping data. In this master's thesis drone multispectral time-series data will be incorporated into multi-trait genomic prediction models as a secondary trait to predict complex primary traits in wheat such as grain yield. Different models including Bayesian regression and partial least square analysis will be applied for prediction. If you are interested in working with markers data, statistical analysis, and modeling, this will be the right topic for your master's thesis. However, some knowledge of programming in R is a prerequisite. You will also learn about drone imagery and data processing if you are interested.

Subject area (keywords): Spring wheat, genomic prediction, UAVs, machine learning.

Language thesis: English

Bachelor or Master thesis: Master thesis

Credits: 60 ECTS

Project/company:

PhenoCrop (NFR 320090) - Phenotyping for healthier and more productive wheat crops

NOBALwheat (Baltic Research Program): Breeding toolbox for sustainable food system of the NOrdic BALtic region

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