Title: Evolutionary and Functional Genomics of Mammary Gland Development

Keywords/Stikkord: Evolutionary Genomics, Mammary Gland, Developmental Biology, Gene Regulation, Sustainable Livestock Breeding

Thesis type/Oppgavetype: Master

Credits/Stp: 60

Language/Språk: English

Supervisors/Veiledere: Marie Saitou

Description:
The first part of the project focuses on identifying the key genes responsible for mammary gland development and milk secretion in mammals, using published data from mouse, human, and livestock studies. After shortlisting relevant genes, the evolutionary history of these genes will be explored across various mammalian species non-mammalian outgroups. By conducting evolutionary analysis (e.g., with PAML and CAFÉ), the project aims to uncover patterns of gene gain/loss or accelerated evolution that have shaped these genes in different lineages. This project will provide important insights into the genetic basis of lactation and glandular development, both from an evolutionary perspective, livestock production and sustainability. Reading list:
https://www.sciencedirect.com/science/article/pii/S1084952121000549
https://www.sciencedirect.com/science/article/pii/S1751731111001935
https://www.nature.com/articles/s42003-021-01770-6

Additional info: We welcome motivated master's students who want to contribute to cutting-edge research in evolutionary genomics, bioinformatics, and functional genomics.

Our lab has a strong record of supporting students, with past master's student successfully submitting their work to an international journal.

You can start working early if you like. We value collaboration, initiative, and time management.

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