

Research section:

Breeding and Quantitative genetics group



The group holds broad competence in animal breeding, quantitative genetics, and sustainability in all livestock species, aquaculture, and sports- and companion animals.

Fields of expertise

- Genomic selection
- Models and methods for genetic analyses and evaluations
- Breeding plans and design of breeding programs
- Genetic resources
- Biological aspects of animal breeding
- Sustainability of animal production
- Greenhouse gas emissions and whole-farm modelling
- Life Cycle Assessment (LCA)

The group has been acknowledged as one of the leading groups in the development and application of genomics technologies for practical animal breeding. How to best utilize new high resolution phenotypes together with the large and increasing amount of genomic information in animal breeding is currently an important research topic. Research on new phenotypes and new traits aim to meet future challenges by selection for improved feed efficiency and reduced environmental footprint.

For students

Students who are interested in any of our research topics are very welcome to contact any one of us. Our group has broad experience in supervision of both BSc and MSc students. We can provide you with examples for thesis topics or you can contact us with your own ideas.

Don't hesitate to contact us! We can also help you plan a thesis project in collaboration with companies/other organizations.

Our group

Research group leader: Bjørg Heringstad, bjorg.heringstad@nmbu.no

We're located on the 3rd floor of the Animal Science building. Researchers from the Nordic Genetic Resource Center (NordGen) and breeding organizations Geno, Norsvin, Norsk Sau og Geit and AquaGen are based on the same floor and are in close collaboration in many projects.

Our team, research areas, topics of interest and software/code language expertise



Researcher

Bente Aspeholen Åby
bente.aby@nmbu.no

Whole-farm modelling of greenhouse gas emissions from ruminant production systems, measurement of greenhouse gasses from sheep



Professor

Bjørg Heringstad
bjorg.heringstad@nmbu.no

Animal breeding and genetics. Dairy cattle, health and fertility traits. I work 50/50 for NMBU and Geno

See: <https://www.nmbu.no/ans/bjorg.heringstad>

SAS, DMU



Ph.d. student

Cathrine Brekke
cathrine.brekke@nmbu.no

My phd project is on genetic variation in meiotic recombination rates in cattle pigs and atlantic salmon. I am also interested in, and have worked with, genetic diversity related to conservation of livestock breeds.

R/Rstudio, Lepmap3, PLINK



Researcher

Gebreyohans Gebregiwergis
Gebreyohans.tesfaye.
gebregiwergis@nmbu.no

Feed efficiency in cow specifically prediction of dry matter and silage intake using different prediction methods

R, Asreml, Plink, Unscrambler



Researcher

Geir Steinheim
geir.steinheim@nmbu.no

Breeding and genetics in sheep.



Professor

Gunnar Klemetsdal
gunnar.klemetsdal@nmbu.no

Quantitative genetics

SAS, ASReml, GCTA, Plink, Fortran



Post doc - tenure track

Hanne Fjerdingby Olsen
hanne.fjerdingby@nmbu.no

Sustainability in livestock systems, life cycle assessment (LCA). Horse breeding, genetic variation. Project leader of LIVESTOCK: <https://www.nmbu.no/prosjekter/node/41382>

SAS, Simapro (and R, PLINK)



Professor

Hans Magnus Gjøen
hans.magnus.gjoen@nmbu.no

Head of master program in aquaculture. Mostly worked with optimization of breeding design in fish.

See: <https://www.nmbu.no/ans/hans.magnus.gjoen>



Ph.d. student

Kirsti Winnberg
kirsti.winnberg@nmbu.no

Ph.d. project: Selection on reduced methane emission in Norwegian Red cow. Master thesis topic: genomic inbreeding estimation in Norwegian Red

R/Rstudio



Researcher

Laila Aass
laila.aass@nmbu.no

Breeding and genetics in ruminants, product quality, sustainability, production systems and modelling etc.

See: <https://www.nmbu.no/ans/laila.aass>



Researcher

Marie Konstad
marie.konstad@nmbu.no

I'm involved in the project Klimasmart Landbruk. My main task is to prepare a technical description of a newly developed digital farm scale GHG calculator.



Ph.d. student

Muhammad Azher Bhatti
muhammad.azher.bhatti@nmbu.no

My Ph.d. project is on Norwegian sheep breeds (NKS and Spæl) sensory meat quality, sheep farm economics (linear optimization) and meat consumer behavior and consumer/market segmentation.



Professor

Peer Berg
peer.berg@nmbu.no

Former head of the farm animal section at Nordic Genetic Resource Center.

Current projects and areas of focus, see:
<https://www.nmbu.no/ans/peer.berg>



Professor Emeritus

Odd Vangen
Odd.vangen@nmbu.no

Biological aspects of animal breeding, selection experiments, beef breeding, pig breeding, dog breeding, horse breeding, ethical aspects of breeding.



Post doc

Sini Wallén
sini.wallén@nmbu.no

I'm participating in two different projects: Genetic improvement of feed utilization in cattle and pigs, and Across European red dairy breeds genomic predictions

SAS, PLINK, Awk



Researcher

Stine Samsonstuen
stine.samsonstuen@nmbu.no

Life cycle assessment (LCA) in the project LIVESTOCK and whole-farm modelling of greenhouse gas emissions (HolosNorBeef). Involved in implementing the HolosNor-models as farm advisory tools through the project Klimasmart Landbruk.

SAS, Simapro (and ASReml, PLINK)



Professor

Theo Meuwissen
theo.meuwissen@nmbu.no

Genomic selection.

Fortran, Asreml



Ph.d. student

Torgunn Aslaug Skjerve
torgunn.aslaug.skjerve@nmbu.no

In my phd-project I'm implementing life cycle analysis as a tool for assessing sustainability in breeding goals in dairy cattle. Holistic sustainability is the overarching topic.



Retired førsteamanuensis

Tormod Ådnøy
tormod.adnoy@nmbu.no

Employed as supervisor and lecturer. Teaches BIN301. Topics of interest includes multitrait mixed models in breeding. Seat in program council for Data Sciences. MSc animal sciences and Ph.d. in mathematical statistics.

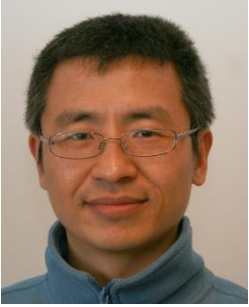


Researcher

Tu Luan
tu.luan@nmbu.no

Genomic selection

Fortran, bash



Researcher

Xijiang Yu
xijiang.yu@nmbu.no

Genomic selection, data manipulation, algorithm and package development

See: <https://github.com/xijiang>

Major: Julia, C++, bash. Linux OS administration;
Minor, R, Fortran, Python, Matlab, SQL