

**Title:** Analysis of cows' milking order using a large database of data from milking robots

**Company/Institution:** SLU

**Supervisor:** Lars Rönnegård, SLU

**Background:** In our research project, we examine how social interactions among cows affect welfare, production and disease transmission.

The overall aims of the research project are:

- To develop tools for summarizing animal movement and social interactions in dairy farms.
- To develop decision-support tools for minimizing disease transmission within dairy farms based on knowledge gained from animal movement and social interactions.
- To develop methodology for breeding on indirect genetic effects, ie inherited social effects.

The research project is a collaboration between SLU in Uppsala, RISE, Växa Sverige, Högskolan Dalarna and University of Copenhagen. Seven senior researchers, three postdocs and two PhD students are currently involved in the project. For more information see <https://www.slu.se/en/faculties/vh/research/forskningsprojekt/not/precision-livestock-breeding/>

**Goals:** We would like the students of this project in scientific computing to investigate the order that cows enter milking robots. Do they come in a similar order every day or randomly? What happens when new cows are introduced? If time permits the students will also examine how the milking order affects milk production.

The students will use data from the GigaCow infrastructure at SLU where sensor data are continuously collected from 15 dairy farms in Sweden.