



THE UNIVERSITY
OF BRITISH COLUMBIA



CPSC 547 – Visualization Project Pitch

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MSc. in Animal Reproduction and Health Program

Automated activity sensors to unravel dairy cow's biology

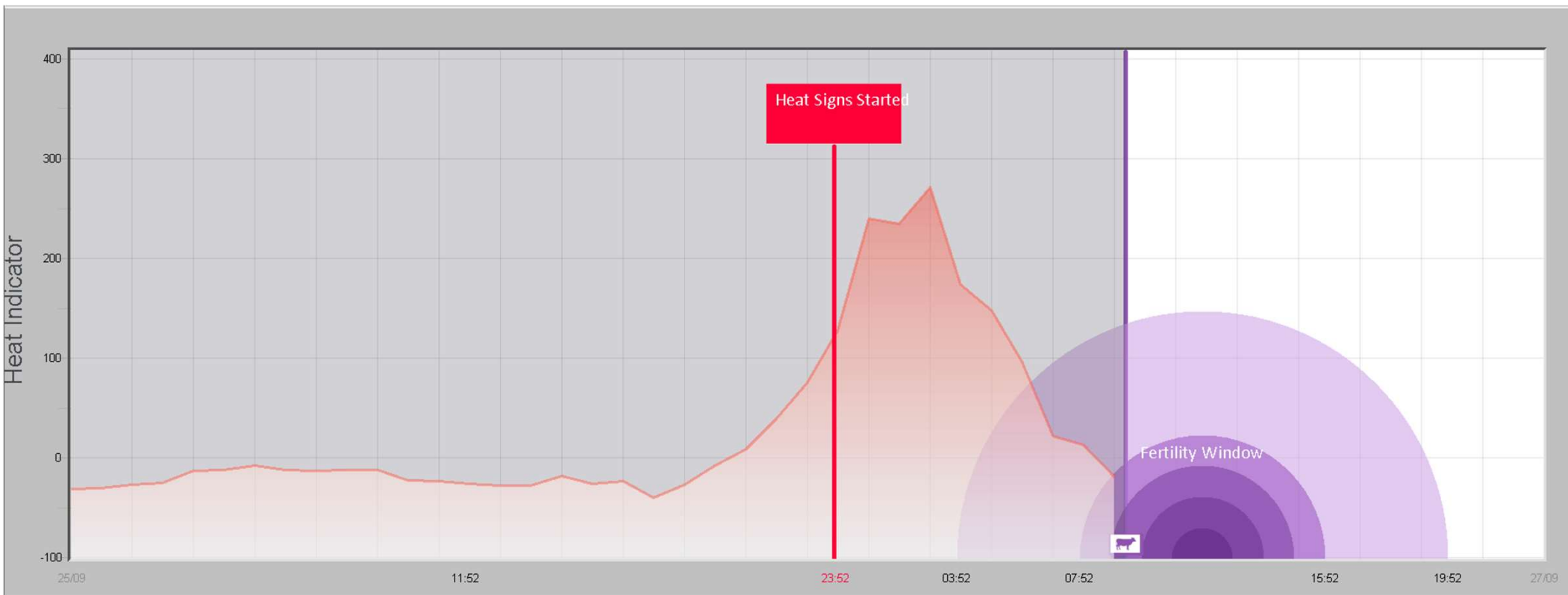
- Measure activity – Steps, lying time, eating time and rumination
- Largely used in Canada for estrus detection as a reproductive technology

Estrus behavior

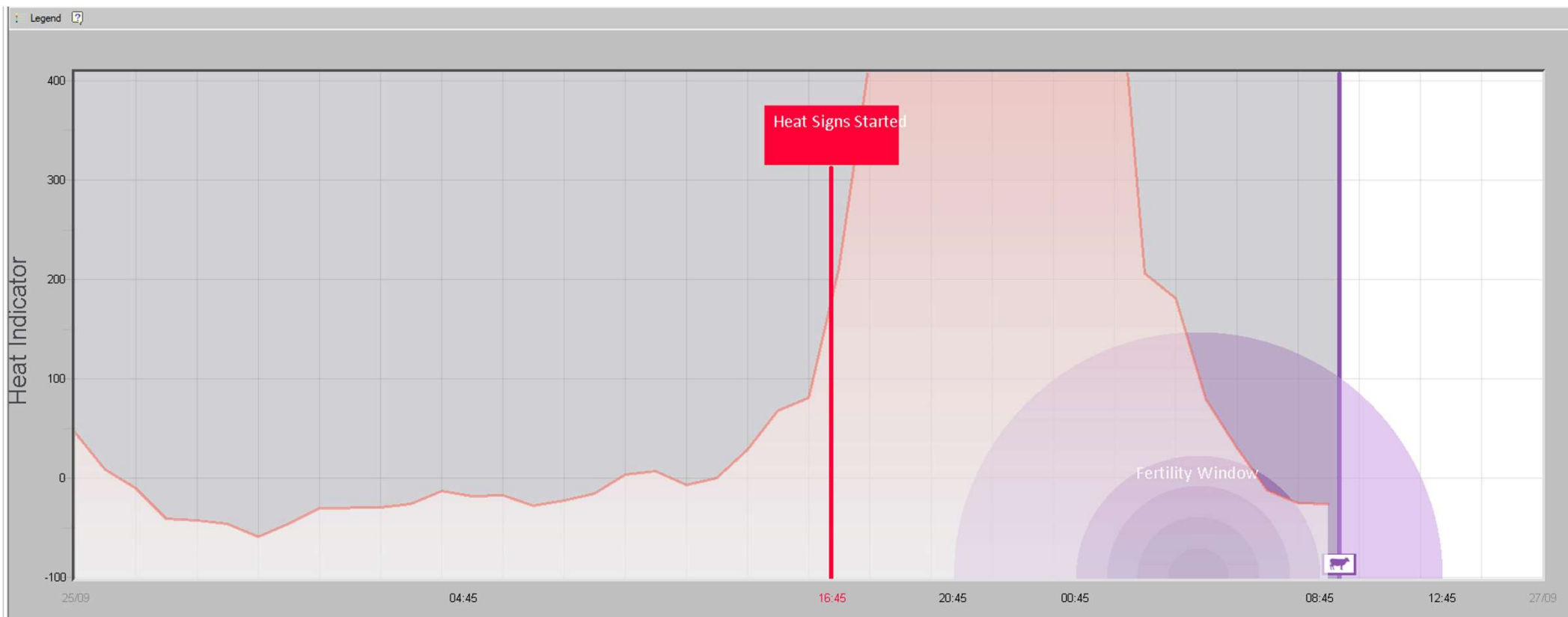
- Natural behavior
- Standing to be mounted
- Mounting others
- Restless
 - Significantly more active



Automated monitor activity during estrus



Automated monitor activity during estrus



Objectives



- Assess if there is patterns of estrous expression
- Assess if there is patterns through estrous cycles of an animal
 - Potentially across multiple lactations

Future objectives

- Determine if this patterns are biologically meaningful
- Potentially improve what we define as better quality of estrous

Dataset available

- Modified dataset – Containing only the estrous events using activity index from the company
 - Data from 2017 – 2021
 - Already available
- Raw dataset – Based on company backups with continuous activity
 - Higher level of detail on the activity
 - Not fully available – Some information from 2021 and 2022

Thank you!

Have a nice day

