

Ragusa, 16 September 2021

Special Session of the 6th International online Conference on Safety,
Health and Welfare in Agriculture and Agro-food Systems "Ragusa
SHWA 2021"

Innovation for Smart Dairy Farming

Under the auspices of ICTAgri CowBhave project, PRIN 2017 project, AIIA II Section, CIGR, and Di3A

Programme Overview

Meeting Chair: Prof. Claudia Arcidiacono, University of Catania, Italy

Session Chair: Prof. Daniele Torreggiani, University of Bologna, Italy

15:00 – WELCOME SESSION

Prof. Agatino Russo – University of Catania

Head of the 'Agriculture Food and Environment' Department

Prof. Remigio Berruto – University of Turin

President of the CIGR

Prof. Patrizia Tassinari – University of Bologna

President of the AIIA II Section

Prof. Giampaolo Schillaci – University of Catania

Ragusa SHWA Conference Convener

15.20 – LECTURES ON *Innovation and sustainability for smart dairy farming*

COWBHAVE final results:

The COWBHAVE system: an open-source accelerometer-based system for monitoring dairy cows' behavioural activities, and the Virtual on-farm demonstration.

Prof. Claudia Arcidiacono – University of Catania

Using deep neural networks to detect cow behaviour from CowBhave accelerometer collar

Dr. Victor Bloch – Natural Resources Institute Finland

PRIN2017 intermediate results:

Task 1: *PLF and barn microclimate.* Dr. Lisette Leliveld, University of Milan

Task 2: *Free access to pasture for dry cows: effects on health, behavior and production.*

Dr. Lorenzo Leso, University of Florence

Task 3: *PLF and Big Data for the mitigation of the effects of heat stress.*

Prof. Stefano Benni, University of Bologna

Task 4: *On the determination of acceleration thresholds for the automatic detection of cow behavioural activities in extensive livestock systems.* Dr. Giulia Castagnolo, University of Catania

Task 5: *Application of computer vision systems for herd management.*
Prof. Stefano Benni, University of Bologna

Task 6: *PLF and sustainability in dairy cattle breeding.* Dr. Daniela Lovarelli, University of Milan

The effect of microclimate conditions on ammonia emissions from an open-sided dairy barn during spring. Dr. Provvidenza R. D'Urso, University of Catania

Spatial variability of ammonia and carbon dioxide concentrations in an open-sided dairy barn.
Dr. Provvidenza R. D'Urso, University of Catania

17:40 – DISCUSSION AND CONCLUSIONS