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Nationality: Italy
Date of birth: 25/09/2001
Place of birth: Reggio nell'Emilia, Italy

Education:

- PhD student in Animal and Food Science (2025-)
- Master student in Animal Sciences and Technologie (2023-2025)
- Bachelor student in Zootechnical Sciences and Animal Production Technologies (2020-2023)

Research areas:

- Laying hens
- Cage-free system
- Behavior
- Egg quality
- Precision Livestock Farming

Brief description of Ph.D project:

The research project aims to optimize a cage-free housing system for laying hens by improving animal welfare, productivity, and environmental and economic sustainability throughout an extended 18-month production cycle. Building on an existing industrial prototype developed with Officine Facco, the study will introduce structural and environmental innovations specifically in lighting,

acoustic conditions, and nest design combined with advanced Precision Livestock Farming (PLF) technologies for real-time monitoring of environmental parameters and animal behavior. A multidisciplinary approach involving animal science, ethology, engineering, agronomy, and data science will guide several experimental trials in cage-free aviaries. PLF tools (acoustic, visual, and environmental sensors) will continuously collect data, which will be analyzed in collaboration with KU Leuven to develop predictive models and decision-support algorithms for farm management. The project also includes an environmental sustainability assessment through air quality monitoring, litter and manure characterization, composting trials, and the exploration of manure-derived biostimulants.

Expected outcomes include:

- optimized management protocols integrating environmental innovations with PLF data;
- improved welfare, longevity, and performance in extended production cycles;
- scientific publications and presentations at major international conferences;
- practical guidelines and training materials for the poultry industry.

Ultimately, the project will contribute to the transition toward more sustainable and welfare-oriented cage-free poultry systems.

Supervisor:

Professor Angela Trocino

Publications: Google scholar link

<https://scholar.google.com/citations?user=m4TS5AUAAAAJ&hl=en&authuser=1>