## **A Simulation Model for Evaluating Optimal Strategies for Vaccination and** Surveillance of Highly Pathogenic Avian Influenza in Poultry

Sandra Filipa Oliveira Carapeto<sup>1\*</sup>, Anette Ella Boklund<sup>1</sup>, Lene Jung Kjær<sup>1</sup>, Matt Denwood<sup>1</sup>, Yuan Liang<sup>1,2</sup>, Charlotte Kristiane Hjulsager<sup>2</sup>, Lars Erik Larsen<sup>1</sup>, Carsten Thure Kirkeby<sup>1</sup>

<sup>1</sup>Department of Veterinary and Animal Sciences, Faculty of Health and Medical Sciences, University of Copenhagen, Frederiksberg, Denmark, <sup>2</sup>Department of Virus and Microbiological Special Diagnostics, Statens Serum Institut, Copenhagen, Denmark

\*sandra.carapeto@sund.ku.dk

## What are the key challenges in controlling avian influenza?





## **Expected Outcomes**

- Immune Response
- Viral Shedding
- Clinical Signs
- Pathological and Histopathological Findings
- **Effective Reproduction Number**
- Transmission Rate
- Morbidity and Mortality Rates
- Vaccine Efficacy Parameters

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- A stochastic, within-flock transmission model using a SEIRD (Susceptible-Exposed-Infectious-Recovered-**Dead)** framework.
- Model calibration using data from the **experimental** study and bibliographic review.

## **Expected Outcomes**

- Impact of Different Vaccination Strategies
- Effectiveness of Different Surveillance Schemes





- How effective is vaccination in reducing HPAI spread?
- What are the challenges in implementing vaccination?
- How does surveillance ensure vaccination success?





**Ministry of Food, Agriculture** and Fisheries of Denmark Danish Veterinary and Food Administration



