

ANIMAL HEALTH & GREENHOUSE GAS EMISSIONS INTENSITY NETWORK

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Credit: Şeyda Özkan



Credit: Lydia Lanzoni

The **AHN** is an international network focusing on the interplay between animal health and GHG emissions from a systems perspective. The network aims study the interrelation of diseases in animals with feeding, breeding, immune response, and the resulting impacts on GHG emissions on farms, both in terms of intensity and absolute emissions.



THE ANIMAL HEALTH AND GREENHOUSE GAS EMISSIONS INTENSITY NETWORK IS PART OF THE LIVESTOCK RESEARCH GROUP OF THE GLOBAL RESEARCH ALLIANCE ON AGRICULTURAL GREENHOUSE GASES

Network leaders:

Şeyda Özkan (Seyda.Ozkan@fao.org;)

Nick Wheelhouse (N.Wheelhouse@napier.ac.uk)

Network communications coordinator (New!):

Lydia Lanzoni (llanzoni@unite.it)



@AHN_GRA



In these months we were....

Participating at events

31st January – 2nd February 2023

"International Workshop on the Link between Animal Health and Greenhouse Gas Emissions", Queen's University Belfast, UK

"Developing a scientific Roadmap of how to quantify the relationship between animal health and environmental impact"



The workshop, organised by **Prof. Ilias Kyriazakis**, AHN member and previous co-leader of the network, was a great opportunity to interact with different stakeholders involved in addressing the link between animal health and environmental impact. In this event, **Şeyda Özkan** (FAO) was invited to introduce FAO's work in this area.

23–24th March 2023

"International Workshop: Barriers to Achieve Net Zero in Agriculture & Food", Queen's University Belfast, UK

"Identifying the main barriers to achieving carbon neutrality in the agri-food sector"

Experts from different fields were invited to discuss about the challenges and solutions for the sustainable transition of the sector. From the AHN, **Şeyda Özkan** (FAO) was invited to talk about the global livestock perspective.



International Workshop:
Barriers to Achieve Net Zero in Agriculture & Food
Belfast
23 – 24 March 2023

Hosted by Prof Nigel Scollan and Prof John Gilliland

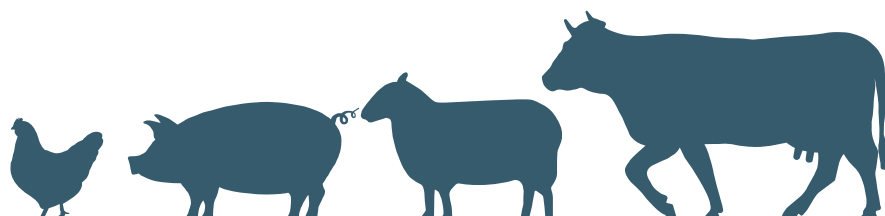
This project was supported by funding from the Queen's University Belfast Engaged Research Seed Fund.



Building opportunities for the future

The **AHN** is participating in a series of dialogues with the **Environmental Defense Fund (EDF)** on the connections between methane emissions and animal health.

The aim is to **identify near term opportunities to advance actions that reduce methane emissions and improve animal health, while ensuring the alignment of key policy stakeholders.**



In these months we were....

Writing projects

Updates on the "COST ACTION" proposal

Part of the AHN members are actively involved in the writing of the "**ANIMAL**" (*Farm Animal Health in a Warming Climate*) COST action proposal.

The objectives currently identified by the team are:

- ▶ **Modelling improved animal health as mitigation strategy**
assessment of information gaps in animal health data used for modelling GHG emissions
- ▶ **Identify the adaptation strategies**
assessment of animal adaptation strategies and pathogen vector ecology in a changing climate
- ▶ **Engaging policy and stakeholders**
stakeholder engagement to identify the best strategies for designing effective policies

The COST action will complement the AHN's activities, which will play a crucial role in ensuring that priorities for future research development are in line with the needs of society together with farmers, agricultural advisors and policy makers.



DRAFT SCHEME OF THE PROPOSAL

WP1 – METHODS

Task 1	Task 2	Task 3
Definition of the AH priorities	Definition of the modelling strategy (and baselines)	Identification on the tool(s) for the environmental, social and economic impact assessment

WP2 – DATA COLLECTION

Task 1	Task 2	Task 3
Data collection for the social impact assessment	Data collection for the economic impact assessment	Data collection for the environmental impact assessment
Task 4		
Identification of data gaps and common strategy to overcome the limitations		

WP3 – MODELLING

Task 1	Task 2	Task 3
Modelling the social impact of the AH priorities	Modelling the economic impact of the AH priorities	Modelling the environmental impact of the AH priorities

WP4 – TOWARDS A POLICY INTEGRATION PROPOSAL

Task 1	Task 2
Socio-economic and environmental results interpretation and integration	Proposition of AH-based strategies to be implemented to improve the environmental, social and economic sustainability of the system

**Deadline for the submission:
October 2023**

In these months we were....

Organising workshops

"Mapping workshop on animal health and national climate commitments"

In view of the possibility of support from the **Livestock Research Group (LRG)**, a **workshop proposal** was formulated by the **AHN**.

The aim is to bring together stakeholders to investigate and map the main animal health issues in the different countries, the legislative strategies implemented to tackle them and their possible integration into national climate targets.

"Workshops with the Inventories and Nationally Determined Contributions Network (INDC)"

The dialogue between the AHN and the GRA's **Inventories and Nationally Determined Contributions Network (INDC)** provided the basis for a **series of workshops** that will be advertised soon to discuss data gaps in national inventories.

Further details of the outcome will be reported as soon as possible....

Meet the AHN members

Lydia Lanzoni: The new AHN's communication coordinator!



Credit: Lydia Lanzoni

Lydia is a veterinarian and a PhD student at the University of Teramo (Italy).

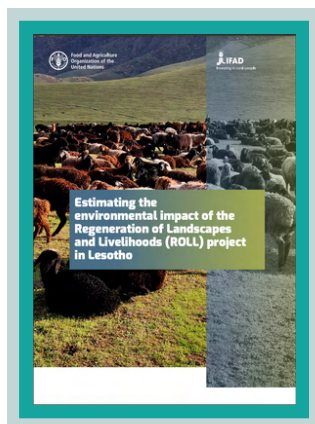
During her PhD she gained experience in Life Cycle Assessment, modelling and validation of non-invasive enteric methane measurement techniques (LMD). Her research project mainly focuses on

1. quantifying the environmental mitigation potential of improved animal welfare on sheep farms;
2. analysing the challenges of integrating animal welfare indicators in life cycle assessment and,
3. developing a European framework for assessing the environmental, economic and social sustainability of the sector within the LIFE Green Sheep project.

She will be coordinating the communication side of the AHN (e.g., newsletter, workshops and activities, updating the list of publications..) so feel free to drop an email if you know of a publication or an event relevant to the AHN, or if you would like to discuss ideas around the webinars and workshops planned.



Keep informed: AHN Library updates



Özkan, Ş., Doro, E. & Mottet, A. **2023.**

Estimating the environmental impact of the Regeneration of Landscapes and Livelihoods (ROLL) project in Lesotho.

Rome, FAO.

The report presents the results on GHG emissions and recommendation for livestock investment to improve production efficiency while reducing absolute emissions and/or emissions intensity in Lesotho. Improved animal health through vaccination, treatment for internal and external parasites and good animal husbandry was part of the interventions in the project.



Lanzoni, L., Whatford, L., Atzori, A., Chincarini, M., Giammarco, M., Fusaro, I. & Vignola, G. **2023.**

Review: The challenge to integrate Animal Welfare indicators into the Life Cycle Assessment.

A scoping review that summarises and categorises the approaches used to date to integrate animal welfare indicators into Life Cycle Assessment, highlighting their strengths and weaknesses. It aims to lay the foundations for the development of guidelines for conducting comprehensive farm sustainability assessments.



Oxford Analytica. **2023.**

Animal health and Sustainability: A Global Data Analysis – A report produced for HealthforAnimals.

The report provides data on the link between animal health and the three pillars of sustainability:

- *Economic: A 60% global vaccination rate for beef cattle is associated with a productivity rise of more than 50%*
- *Environment: A fall in livestock disease of 10 percentage points is associated with an 800 million tonne decrease in greenhouse gas (GHG) emissions.*
- *Social: Globally, on average, every two cattle vaccinated is correlated with one person avoiding hunger*



Özkan, Ş., Nana, A., Ziebe, R., Agbor, E.K., Chaherli, N.M., Germer, L.A., Billong, J., Ndi, C., Yobo A. Koue Epse Nhimog, F.H., Ngondi Njoya, K., Missi Missi, P., Teillard, F. and Mottet, A. **2022.**

Cameroon moves towards low-carbon livestock systems.

Rome, FAO.

It illustrates how the series of measures (including the impact of a vaccination program and improved veterinary services) implemented in Cameroon through the Livestock Development (PRODEL) project to implement the productivity of the livestock system can be a strategy to move towards a low-carbon development of the sector.

Click on the images to read them!



Save the date: the AHN calendar

9th May 2023

"Welfare Science and Sustainability in sheep farming"



- Virtual webinar
- Online registration required

Organised by a network of PhD students (**Lydia Lanzoni** - member of AHN - from the University of Teramo, **Michelle Reeves** from SRUC and **Marta Comin** from the University of Milan)

The webinar will provide information and scientific updates about the world of sheep farming in the fields of animal welfare and sustainability. Speakers will discuss how the two disciplines can work together to improve the lives of farmed sheep and the environmental impact of this agricultural activity. Two members of the AHN (**Pol Llorch** and **Şeyda Özkan**) will participate as speakers.

[Check out the programme and register here](#)

June 26th-30th, 2023

"AgMIP9" event



- Columbia University, New York, NY
- Online registration required

Organised by the Agricultural Model Intercomparison and Improvement Project (**AgMIP**).

During the event several talks will be held by experts to explore Advancing Methodologies to Estimate Greenhouse Gas Emissions from Food Systems and the link between livestock, croplands and grasslands.

[Check out the programme and register here](#)

If there are any events or activities that you would like to see highlighted, we would love to hear your suggestions so please get in touch.