



9th International Conference on the Welfare Assessment of Animals at Farm Level (WAFL)

**Florence, Italy
30/31 August 2024**



PROGRAMME BOOKLET

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Welcome to the 9th International Conference on the Welfare Assessment of Animals at Farm Level (WAFL) in Florence

Welcome to the 9th International Conference on the Welfare Assessment of Animals at Farm Level (WAFL) in beautiful Florence, Italy! This marks the first in-person WAFL since Wageningen in 2017, and follows the successful online WAFL conference in 2021. We are delighted to have the support of the Rome Office of the European Federation of Animal Science (EAAP) and our employer Teagasc, The Irish Agriculture and Food Authority, in organising this unique event. We also acknowledge collaboration with the Health and Welfare Commission of the EAAP. The WAFL conference will feature two full days of theatre and poster presentations on the science of welfare assessment in farm animals. This offers a focused experience for attendees, as well as the opportunity to engage in discussions about future challenges for Animal Welfare Science and Policy and on the future of the WAFL conference itself.

Organising committee

Laura Boyle (Chair)
Keelin O'Driscoll (Co-Chair)
Amy Quinn (Co-Chair)

Scientific Committee

Keelin O'Driscoll (Chair)
Laura Boyle (Co-Chair)
Maria Hötzel
Gabriela Olmos Antillón
Oceane Schmitt
Jen Yun-Chou
Gareth Arnott
Mona Giersberg
Miroslav Kjosevski
Ophelie Menant
Jan Tind Sorensen (WAFL 1999)
Christoph Winckler (WAFL 2005)
Frank Tuyttens (WAFL 2008)
Tina Widowski (WAFL 2011)
Hans Spoolder (WAFL 2017)



Additional reviewers

Alessia Diana
Angela Trocino
Anneleen Watteyn
Charlotte Vanden Hole
Day Teixeira
Evelien Graat
Grace Carroll
Isabel Blanco Pinedo
Liat Morgan
Margit Bak Jensen
Martyna Lagoda
Mirjam Holinger
Niamh O'Connell
Noémie Van Noten
Richard Mott
Siobhan Mullan

Local Organizer



The European Federation of Animal Science (EAAP) is an international non-governmental organization focused on advancing animal production through research and knowledge dissemination. Founded in 1949 and based in Rome, the EAAP connects scientists, breeders, and administrators from 36 countries, mainly in Europe and the Mediterranean area. It emphasizes areas like genetics, nutrition, livestock management and more. The EAAP's flagship event is its Annual Meeting, which gathers global experts to discuss advancements in animal science. Additionally, it organizes smaller workshops and webinars throughout the year. The EAAP is also involved in numerous European projects aimed at enhancing animal welfare and sustainable farming practices.

Thanks to



Discover Florence

The capital city of the Italian region of Tuscany has nearly 400.000 inhabitants. Known as the capital of the Italian Renaissance, it has countless sculptures, squares, civil and religious buildings, palaces, markets, and museums that make it a unique destination. World-famous for its perfect preservation, Florence looks as it did in the 15th century. However, thanks to the modernisation projects commissioned by the city council, Florence is a perfect mix of modernity and classicism. Florence's museums, palaces, and churches are among the world's greatest artistic treasures. The most popular and important sites in Florence include the Duomo, the Baptistery, the Uffizi, the Bargello, Palazzo Pitti, Ponte Vecchio, the Boboli Garden, and the Accademia. The churches of Santa Maria Novella and Santa Croce are true art galleries, while the library of San Lorenzo is a magnificent display of Michelangelo's architectural genius.



Sites to visit in Florence

Santa Maria del Fiore

A city of artists, Florence offers visitors all kinds of beauty that is impossible not to fall in love with. First of all Santa Maria del Fiore, also known as the Duomo of Florence. It is a 153 metre long cathedral, built to compete with the churches of rival cities Pisa and Siena. Renowned names of Italian art participated in its creation: Giotto, Brunelleschi, Vasari and Ghiberti, to name but a few. Piazza del Duomo is also home to two other famous Florentine monuments, the Baptistery and the Bell Tower. While the former represents one of the oldest buildings in the city, the Campanile was designed by Giotto and is the bell tower of the Cathedral.



Ponte Vecchio

On the list of things to see in Florence, Ponte Vecchio cannot be missed. A peculiarity of this picturesque place, nowadays known not only for its beauty but also for its goldsmiths' shops, is that until 1565 it was the greengrocers and butchers' shops that were the main attraction of the place. Until 1218, the Ponte Vecchio was the only bridge crossing the River Arno in Florence. Above the goldsmiths' shops on Ponte Vecchio is the Corridoio Vasariano, built by Giorgio Vasari to allow these workers to go from Palazzo Vecchio to Palazzo Pitti in complete safety.



Palazzo Vecchio

Piazza della Signoria is home to another of the 10 things to see in Florence, Palazzo Vecchio. It is the political symbol of the Tuscan capital and is built on the ancient ruins of the Roman theatre of Florentia. Built in the shape of a castle, it has a distinctive 94-metre high tower that makes it very difficult to photograph the palace in its entirety. One of the most characteristic rooms in Palazzo Vecchio is the Sala dei Cinquecento, measuring 54 metres long, 22 metres wide and 17 metres high, making it the largest room in the whole of Florence.



Piazza della Signoria

Of all the things to see in Florence, Piazza della Signoria is a must-see. In addition to Palazzo Vecchio, in fact, this extraordinary city space also contains other wonders. In the square you can admire a copy of Michelangelo's 'David', which the sculptor placed in front of Palazzo Vecchio to symbolise the power of the Florentine Republic as opposed to the tyranny of the Medici. Other statues in the square include the 'Neptune' by Ammannati, the equestrian sculpture of Duke 'Cosimo I' by Giambologna and 'Hercules and Cacus' by Bandinelli. On the right-hand side of the Palazzo Vecchio, we can instead be dazzled by the beauty of the Loggia dei Lanzi, a small open-air gallery containing several artworks. These include the 'Rape of the Sabine Women' by Giambologna and the statue of Perseus with the head of Medusa by Benvenuto Cellini.



The Uffizi Gallery

The Uffizi Gallery is one of Florence's most important treasures. Its construction dates back to 1560, when Giorgio Vasari designed these spaces as a perspective structure to enhance the Palazzo Vecchio Tower.

Today, the Uffizi is one of the most important museums in the world, with its extraordinary collections of ancient sculptures and paintings, ranging from the Middle Ages to the modern age. In addition to 14th century and Renaissance paintings by artists such as Giotto, Piero della Francesca, Botticelli, Leonardo and Michelangelo, the Uffizi Gallery also features an extraordinary collection of busts and sculptures of the Medici family.



The Church of Santa Maria Novella

Another must-see place in Florence is the Church of Santa Maria Novella. From an architectural point of view, this building represents one of the most important Gothic churches in the whole of Tuscany. The exterior and façade of the church are the work of Fra Jacopo Talenti and Leon Battista Alberti. Inside, however, Santa Maria Novella contains magnificent artistic masterpieces, such as the 'Trinity' by Masaccio, the frescoes by Ghirlandaio and the 'Crucifix' by Giotto.



The Accademia Gallery

A cultural and artistic tour, in the company of friends or family, among the many beautiful sights in Florence must also include a stop at the Accademia Gallery. After the Uffizi Gallery, this museum is the most visited in the Tuscan capital. The Accademia Gallery is also called the 'Michelangelo Museum': in fact, of all the museums in the world, this is the one that exhibits the largest number of statues by the famous Renaissance artist.

The Pitti Palace and the Boboli Gardens

By crossing the Ponte Vecchio you can easily reach the Oltrarno, where the first building that will catch your eye is Palazzo Pitti. This imposing palace was built by the Pitti family in 1457 based on a design by Filippo Brunelleschi. It is worth visiting this building because inside you will find some of the most important museums in Florence: the Palatine Gallery, the Gallery of Modern Art, the Porcelain Museum and the Fashion and Costume Museum. Besides the artistic beauties, the Palace also contains a natural marvel, the Boboli Gardens. A true open-air green museum, home to ancient species of holm oaks, sculptures, fountains: its design was the original prototype that also inspired the gardens of Versailles.



How to get to Florence

By plane

The easiest way to get to Florence is to fly to Florence Airport or to Pisa International Airport, located 62 miles (100 km) west of Tuscany's capital city. You will find a tramway connection with very high frequency of rides and limited cost to reach the congress venue and the city center.

- Pisa Airport (PSA) is the main airport in Tuscany.
- Florence Airport (Aeroporto di Firenze-Peretola) is the second most important airport of Tuscany.

By train

Another popular option is to fly directly to Rome or Milan and take a high-speed train from there to Florence's central railway station (Santa Maria Novella).

You can check timetables and prices in the TGV website or Ferrovie dello Stato website. If you book online, it is usually cheaper than buying the ticket directly on their website.

- The TGV Europe
- Ferrovie dello Stato

By car

Florence's historic centre is relatively small and has numerous pedestrian streets, making it difficult to travel to the city's centre by car. If you prefer this means of transport, take care not to park in a parking street belonging to residents, otherwise, your car will be towed away and you will get a heavy fine. If you would like to visit other towns and villages in Tuscany like Siena, Lucca or Pisa, you can either hire a car or book a half-day or full-day trip from Florence.

Public transports

Urban lines

Urban transport is managed by Autolinee Toscane.

The ticket is also valid on the tramway network: ordinary (a single-use 90-minute ticket) and multiple-ride tickets (one single ticket valid for four 90-minute rides) can be purchased from authorized sales points and at the train station.

Railway stations

- Santa Maria Novella, piazza Stazione, 1 - Florence
- Campo di Marte, via Mannelli, 12 - Florence
- Rifredi, via dello Steccuto, 1 - Florence

Information for participants

To authors

If authors do not wish to have the PDF presentation or poster available on the EAAP website, they must inform EAAP before September 2nd by sending an email to liguori@eaap.org. After this date, EAAP will assume permission and include your presentation/poster on the EAAP website.

Posters

Poster panels will be available in the catering area of the meeting venue (Giotto Room). Printed posters must adhere to a portrait orientation and should be in A1 size. However, posters should not exceed the dimensions of 70 cm in width and 100 cm in height.

The poster presentations have been systematically allocated over two days (August 30th and August 31st). Each day will feature 40 poster slots. Specifically, all posters designated for Session 8 will be presented on Day 2. The remaining posters from all other sessions will be scheduled for presentation on Day 1.

Participants can also have their posters printed on-site, more information here:

<https://waf12024.eaap.org/have-your-poster-printed-on-site/>

Theatre presentation upload desk

In the meeting room (Michelangelo) there will be an upload desk for the theater presentations, where the technician will assist all participants. Please bring your presentation on a portable USB drive.

To avoid long waits and delays during the sessions, speakers are encouraged to submit their presentations in advance (by August 25th) using the link:

<https://www.dropslide.it/registerSpeaker/F6573BEACBF568DC>

and following the instructions. The service is managed and kindly hosted by the EAAP conference, so speakers should not worry if they do not see the WAFL conference mentioned in the link. Until the deadline, speakers can update their presentations. After this date, presentations can only be uploaded on-site.

Conference website

The 9th International Conference on the Welfare Assessment of Animals at Farm Level (WAFL) website is available and optimized for smartphone navigation. It contains comprehensive and updated information about the conference and venue program.

Conference website: <https://waf12024.eaap.org/>

Venue

Albani Hotel, Via Fiume, 12 – 50123 Firenze

The Albani Hotel Firenze is an exclusive retreat in the historic heart of Florence. Designed for the most demanding tastes, it features high ceilings, fabric-covered walls, fine carpets and refined finishes. The building is a finely restored “early 20th century” residence located just a few steps from Piazza Santa Maria Novella, the Fortezza da Basso fairgrounds and many of the city’s main touristic sites.



How to Get to the Hotel

From Amerigo Vespucci Airport (FLR)

20 min by Auto or Taxi (7 Km).

Direct Bus to Santa Maria Novella railway station.

Tramway Line T2 Vespucci 18 min to Piazza S.Maria Novella

From S.Maria Novella Station (SMN)

3 minutes walking.

Coming from the train platforms, exit on left side of station. Cross the road, turn left and upon reaching Piazza Adua, turn right and then right again onto via Fiume.

By Car

From North: Autostrada A1 > Exit Firenze Nord > Viali di Circonvallazione > Santa Maria Novella railway station.

From South: Autostrada A1 > Exit Firenze Sud > Viale Europa > Viali di Circonvallazione > Santa Maria Novella railway station.

Social dinner

A buffet social dinner, paid for by the participants, will be organized on the evening of Friday, August 30th. The cost of the dinner will be covered by participants and it will be held at "Le Pavoniere," located at Viale della Catena, 2, Florence.

From the Hotel Albani (conference venue) the best options are:

- Tram line T1.3 direction Villa Costanza, stop at Cascine plus 650m on foot (20 mins in total);
- Bus line 17 direction Cascine Piazzale Kennedy, stop at Cascine Scuola di Agraria plus 400m on foot (27 mins in total);
- Taxi: number: +39 055 4390

Please note that onsite payment will not be possible. Seats for participants and accompanying persons can still be purchased by contacting eaap2024@thetriumph.com. Please make sure to complete your purchase by August 10th.



Session 1.

New frontiers in the assessment of animal welfare on-farm

Chair: Kjosevski / Tuyttens

Session Type: Theme session

Theatre Session 1

- 9:00 **Plenary 1.** Animal Welfare Assessment Protocols. From inputs to outputs and from the five freedoms to the five domains
Invited A. Dalmau
- 9:40 Ruffled minds? Time budgets and restlessness in bulls kept in different housing systems
C. Winckler, T. Wildemann, S. Hintze
- 9:50 On-farm animal welfare assessments in a European project on global quality: results, limitations and lessons learnt
E. Bailly-Caumette, B. Martin, I. Veissier, F. Leiber, C. Berri, R. Eppenstein
- 10:00 Identifying optimal combinations of welfare indicators
J. Day, M. Harris, G. Vasdal, C. Barry, R. Kylling, H. Van De Weerd
- 10:10 Dairy cow welfare – Do we need seasonal evaluations?
S. Buijs
- 10:15 Validity and reliability of the animal-based measures of welfare protocols in finisher pigs
M. Coutant, T. Rousing, L. J. Pedersen, M. L. V. Larsen
- 10:20 The impact of farm biosecurity implementation on the level of animal welfare
M. Kjosevski, A. Allepuz, B. Van Den Borne, LM. Tamminen
- 10:25 Welfare of dairy cows on farms practicing cow-calf contact rearing or early separation
M. L. Schneider, A. Rademann, S. Waiblinger

10:30 Coffee break

Poster Session 1

- 01.09 Assessment of cow quality of life at the system level on pastoral dairy farms in New Zealand
S. Hendriks, P. Timmer-Arends, J. Jago
- 01.10 Could the individual water intake serve as a predictive factor for the health status of beef cattle?
L. Magrin, S. Dante, C. Marcon, L. Serva, G. Cozzi
- 01.11 Integrating AI and Welfare Frameworks for Initial Farm Animal Welfare Assessment
C. Schuck-Paim
- 01.12 Benchmarking welfare for grazing beef cattle in Australia
H. Salvin, J. Monk, B. Little, L. Cafe, C. Lee
- 01.13 Evaluation of an animal welfare assessment protocol for male laying hybrids and dual-purpose cockerels
D. Gieseke, J. Singer, L. Matoni, L. Jung, C. Keppler, U. Knierim
- 01.14 Identifying livestock at risk of poor welfare, using animal and farm related risk factors, in Australia
N. Williams, L. Hensworth, S. Chaplin, R. Shephard, A. Fisher
- 01.15 Broiler chicken use of platform enrichments varies with age and time of day
S. Weimer, C. Pennicott, M. Guerreiro, M. Vaught
- 01.16 Assessing Animal Welfare in Chilean Dairy Production: Strengths, Weaknesses, and Opportunities for Improvement
P. R. huenchullán, X. Rivera
- 01.17 Welfare of calves on farms with cow-calf contact compared to early separation using the Welfare Quality® protocol
A. Rademann, M. L. Schneider, S. Waiblinger

- 01.18 Validation of qualitative behavior assessment for dairy cows at pasture
L. Aubé, MM. Mialon, I. Veissier, A. De Boyer Des Roches
- 01.19 On-farm welfare assessment of extensively kept ewes in Austria
L. Adlberger
- 01.20 The diversity in dairy cattle reticuloruminal temperature: Identifying variability in drinking behaviour
A. Shirley, P. Thomson, A. Chlingaryan, C. Clark
- 01.21 Relationship between biosecurity practices and ear necrosis on commercial Irish pig farms
L. Markland, K. O'Driscoll, F. Leonard, L. Boyle

Session 2. Humans in the loop – role of sociology in improving farm animal welfare

Chair: Olmos Antillón / Giersberg

Session Type: Theme session

Theatre Session 2

- 11:10 **Plenary 2.** An 'inclusivity' turn for animals: what social science and humanities research can do to improve farm animal welfare.
Invited E. Roe
- 11:50 Who cares for happy cows? - Exploring views of dairy stakeholders around an automated animal-based welfare assessment tool
LM. Tamminen, K. Berggren, N. Högberg, L. Winblad Von Walter, G. Olmos Antillón
- 12:00 U.S. public perceptions toward precision dairy technology
B. Kelly, K. Proudfoot, J. Costa, B. Ventura
- 12:10 A hierarchy of care – An animal's social meaning impacts veterinary antimicrobial use
G. Olmos Antillón, I. Blanco Penedo, R. Albernaz-Gonçalves, J. Hockenhull, M. Hötzel
- 12:20 A class practical to make vet students reconsider their health-biased view on farm animal welfare
F. Tuytens, B. Ampe
- 12:25 Official and private animal welfare inspectors' view of carrying out inspections
F. Lundmark Hedman, I. R. Ewerlöf, J. Frössling, C. Berg
- 12:30 Adaptation of Food Safety Auditing Principles to Train On-Farm Animal Welfare Evaluators
P. Lawlis, S. Roche, J. Sarasceni
- 12:35 Dairy and beef industry perspectives on gene editing as assessed via the Responsible Innovation Framework
K. Koralesky, M. Von Keyserlingk, D. Weary

Poster Session 2

- 02.09 The PIGLOW app for welfare assessments by free-range and organic farmers: effects on pig welfare and opinions of pig farmers
E. Graat, C. Vanden Hole, T. B. Rodenburg, F. Tuytens
- 02.10 Challenges and opportunities in cage-free egg production systems in Asia: perspectives from egg producers
K. Hartcher, Q. Yang, R. Luna, A. Agus, S. Ito, Z. Idrus, I. Rahayu, M. Jattuchai, E. Lane, J. Nuggehalli, M. Sinclair
- 02.11 Producer attitudes' affect perceived feasibility of collecting on-animal welfare data
H. Salvin, J. Monk, L. Cafe, S. Harden, C. Lee
- 02.12 Animal welfare and ongoing farm consultancies: how advisers' can increase the on farm animal welfare
S. Creatini, F. Salari, C. Roncoroni, I. Altomonte, G. Brajon, M. Martini
- 02.13 Stakeholder opinion and perception on feasibility of Cow-Calf on Italian dairy farms
C. Manfrè, I. Aytemiz Danyer, M. Brscic
- 02.14 Is pair housing perceived by Italian stakeholders as an alternative to individual housing for pre-weaned calves?
G. Pesenti Rossi, A. Gastaldo, G. Boldrin, A. Motta, M. Borciani, E. Dalla Costa, S. Barbieri, G. Berteselli, E. Canali

Session 3.

Welfare of farm animals at end of life (culling/euthanasia, transport and slaughter)

Chair: Sørensen / Chou
Session Type: Theme session

Theatre Session 3

- 14:00 **Plenary 3.** The welfare of cull sows
Invited M. S. Herskin
- 14:40 Insights into monitoring livestock on the move.
T. Collins, E. Dunston-Clarke, E. Schoonens, R. O'Reilly, E. Taylor, L. Pannier, A. Barnes
- 14:50 Animal based measures of consciousness in improperly stunned lambs
M. Comin, G. Sala, S. Barbieri, M. Minero, E. Dalla Costa
- 15:00 Sheep Fatigue During Transport: Recognising Biases and Developing Methods of Identifying a Poorly Understood Welfare Problem
K. Colitti, M. Mitchell, F. Langford
- 15:10 Associations between on-truck monitor by sensors and Welfare Quality assessment during unloading and at the slaughterhouse in pigs
HL. Ko, P. Fuentes Pardo, F. Jimenez Caparros, X. Manteca, P. Llonch
- 15:15 Unplanned culling and mortality in group housed sows – effects of housing and management
A. Wallenbeck, H. Carlzen, E. Karlsson, L. M. Backeman Hannius, R. Westin
- 15:20 The behavioural response of large swine to electrode attachment for on-farm euthanasia by one-step electrocution
C. Cole, S. Parker, M. Denicourt, C. Klopfenstein, Y. Seddon
- 15:25 Assessment of fitness for slaughter in dairy herds - A questionnaire survey among dairy farmers in Denmark
M. K. Poulsen

15:30 Coffee break

Poster Session 3

- 03.09 Can a new design of transport crate improve the welfare of poultry during transport?
V. A. Lima, J. F. Gurgel, D. G. Pinheiro, N. A. F. Machado, J. A. D. Barbosa-Filho
- 03.10 Changes over time in physiological responses of steers after long distance transportation
A. Tozawa
- 03.11 Bruises characterization in beef cattle through innovative forensic techniques
M. Del Campo, G. Brito, H. Rodríguez Almada, C. Negreira, G. Cortela, M. Rodríguez, F. Garagorry, M. Echenique, D. Centurión, S. Urbina, J. M. Soares De Lima

Session 4.

New welfare indicators – with a focus on the positive!

Room:
Chair: Spoolder / Blanco-Penedo
Session Type: Theme session

Theatre Session 4

- 16:20 **Plenary 4.** Lifting farm animal lives – laying the foundations for positive animal welfare
Invited M. B. Jensen, L. E. Webb, L. J. Keeling, P. Llonch, I. Camerlink, M. Zupan Šemrov, JL. Rault
- 17:00 Reliability and validity of the Qualitative Behaviour Assessment – a systematic review
I. Czycholl, C. R. Skovlund, B. Forkman
- 17:10 To sleep or not to sleep: Reliability of the assessment of vigilance stages
L. Lindenberg, S. Mösele, E. Ternmann, J. Stracke
- 17:20 Exploration of positive social relationships in group-housed gestating sows
C. Clouard, J. Chambeaud, E. Merlot

- 17:30 Improving the Rearing Environment for Laying Hens: Balancing Stimulating and Secure Functional areas
L. Skånberg, L. Keeling
- 17:35 Behavioural complexity in pigs: Video- and 3D accelerometer-based measurement for the development of a novel welfare indicator
C. Raudies, M. Knoll, L. Gygax
- 17:40 QBA and indicators of positive emotions in cattle
B. Forkman, E. Verbeek, L. Keeling
- 17:45 Don't rub the belly of a boar: Pigs' behavioral response to human contact and abdominal stroking
P. Seddaiu, I. Camerlink
- 17:50 An exploratory study on how separating and reuniting familiar pigs may impact pig welfare
JY. Chou, JL. Rault, S. Ambruosi, H. Volkmann, I. Camerlink, K. O'driscoll
- 17:55 The effect of preferential associations on reproductive performance in a dynamic sow herd
S. Jowett, Z. Barker, J. Amory

Poster Session 4

- 04.11 Development of qualitative behavioural assessment of mink
B. I. F. Henriksen, T. Rousing
- 04.12 Better sow housing during lactation promotes piglet social play behaviour, indicating positive welfare in piglets
G. Illmann, Š. Hulmáková, V. Sekyrová, M. Špinká
- 04.13 Preliminary results from an Exploratory Factor Analysis of Qualitative Behaviour Assessment data in blue foxes
J. Mononen, M. Kurkilahti, P. Tuunainen, T. Koistinen

Saturday, 31st August

Session 5.

The future of animal welfare: policy and science

Chair: Hötzel / Widowski
Session Type: Theme session

Theatre Session 5

- 9:00 **Plenary 5.** Quantifying Animal Welfare to Inform Policy
Invited B. Fischer
- 9:40 Animal welfare science: views from the field
E. Read, A. Crump, G. Shreedhar, J. Birch
- 9:50 What should future animal farming look like?: reconciling the environmental and animal welfare implications of animal farming
P. Stevenson
- 10:00 Dairy quality assurance on an international scale: What do we know and where are we headed?
J. Saraceni, P. Lawlis, D. Renaud, B. Hampton-Phifer, E. Yeiser Stepp, E. Wynands, S. Roche
- 10:10 Towards Co-Produced Policy Frameworks to enhance animal health and welfare in organic, extensive and small-scale pig and poultry farming systems
M. Bassoli, J. Goracci, H. Pluschke, D. Werner, A. Zuliani
- 10:20 Current state of play of application of welfare assessment protocols in commercial practice: a literature review
I. De Jong, W. Ouweltjes, A. Strappini, G. Martin-Valls, HL. Ko, P. Llonch, T. Paulovic, H. Spoolder
- 10:25 Current state of play of animal welfare assessment activities across the EU
G. Martín-Valls, HL. Ko, I. De Jong, T. Paulovic, H. Spoolder, P. Llonch
- 10:30 The Value of Pig Welfare among Other Product Attributes in a Sample of Irish and UK Consumers
M. Harrison, K. O'Driscoll, N. O'Connell, S. Mccarthy

10:35 **Coffee break**

Poster Session 5

- 05.09 Investigating the welfare impacts of wind turbines and solar panels on grazing livestock
I. Blanco-Penedo, J. Álvarez-Rodríguez, Y. Mena, C. Palacios-Riocerezo
- 05.10 The legitimacy of industry-led dairy cattle welfare governance: A case study comparison of the United States and Canada
C. Kuo, D. M. Weary, M. A. G. Von Keyserlingk
- 05.11 How to take welfare into account in a multi-criteria assessment of new breeding practices or systems
V. Courboulay, Y. Rousselière
- 05.12 Improving animal welfare as a catalyst for just transition towards equitable, humane and sustainable food systems
A. Balzani, M. List
- 05.13 Improving welfare by sharing knowledge: the functioning of an EU Reference Centre for Animal Welfare
V. Brunet, H. Blokhuis, B. Staaf Larsson, S. D'albenzio, C. Winckler, J. Schenkenfelder, A. Hanlon, E. Sossidou, L. Tuominen, I. Veissier
- 05.14 Evaluating Animal Welfare at Farm Level: Innovations and Applications in the Minerva Foods Welfare Assessment Program
T. D. Borges, C. P. De Oliveira
- 05.15 Assessing the Environmental Impact of Animal Welfare Policy Changes on UK National Egg Production
O. Martinic, M. Hegwood, F. Gottardo, H. Bartlett
- 05.16 Farm animal welfare during climate crises: a OneWelfare perspective
I. Camerlink

Session 6.

It's all in the mind – cognition and the welfare of farm animals

Chair: Lee / Veissier / Ford

Session Type: Theme session

Theatre Session 6

- 11:15 **Plenary 6.** Learning and cognition in farm animals and its application to animal husbandry and management
Invited J. Langbein
- 11:55 Being bored? Validating the valence of stimuli as a basis to assess boredom-like states in pigs
S. Hintze, H. Heigl, C. Winckler
- 12:05 Impact of the early life environmental conditions and motivation on cognitive abilities in pigs
C. Galvagnon, P. Seddaiu, I. Camerlink
- 12:15 Development of an Acclimation Protocol for Conditioned Place Aversion Testing in Neonatal Goat Kids
E. Schmidt, B. Ventura, B. Lecorps, W. Knauer
- 12:20 Laying hens prefer synbiotic-enriched water even during stress
A. Naim, N. Van Staaveren, J. Kjaer, E. Leishman, P. Forsythe, D. Tulpan, A. Harlander
- 12:30 Cognition and aggression at the group level: insights from social network analysis
L. Oldham, G. Arnott, M. Brims, I. Camerlink, A. Doeschl-Wilson, M. Farish, A. Futro, V. Lee, F. Wemelsfelder, S. Turner
- 12:40 The influence of two different feeding intensities on the emotional state of dairy cows
N. K. Santo, O. Schmitt, U. König Von Borstel

Poster Session 6

- 06.08 Effects of social interactions on the emotional state of the horse
A. Flamand, A. Raskin, A. Bouhamidi, M. Braconnier, C. Helleu, O. Petit
- 06.09 Protocol development for alpaca welfare assessment: cognitive paradigms in a new "One welfare" perspective
S. Normando, L. Contalbrigo, L. Regolin, A. Baruffato, M. Loconsole

Session 7. Suppress, substitute and soothe suffering – application of the 3S's to improve farm animal welfare

Chair: Winckler / Hartnett
Session Type: Theme session

Theatre Session 7

- 14:10 Teat- and body condition of foster cows on a dairy farm
K. A. Zipp, T. Stumpf, R. Franz-Wippermann, U. Knierim
- 14:20 Evaluation of oral firocoxib, administered to the sow and delivered transmammary to nursing piglets, to manage pain associated with surgical castration and tail docking
A. Viscardi, M. Lou, M. Kleinhenz, M. Hall, J. Gray, T. Van Buren, S. Lierse, K. Kompalage, R. Tucker, M. Bear, J. Coetzee
- 14:30 Novel administration of meloxicam to surgically castrated bull calves via medicated lick blocks
S. Rudd, D. Van Der Saag, S. Lomax
- 14:35 Supporting breeders to better manage animal pain: the case of sheep tail docking
A. Aupiais, M. Doucet, D. Gautier, L. Sagot, S. Lavigne, U. Jean-Louis, N. Litalien, P. Venet
- 14:40 Does familiarity with pen mates affect tail biting in the first week post-weaning in non-docked pigs?
L. Hemsworth, K. Butler, R. Galea, M. Stevenson, P. Hemsworth, R. Morrison, M. Jorquera-Chavez, M. Lucas
- 14:45 Effects of commercially available toys for piglets with intact teeth on sow teat damage
K. Bučková, A. Johnson
- 14:55 Effect of horn status, housing, and management on dairy cows' physiological stress level
G. Thiessen, A. Ebinghaus, U. Knierim
- 15:05 Acoustic analysis to identify non-fatal piglet crushing events
R. Mott, L. Collins

15:15 **Coffee break**

Poster Session 7

- 07.09 An Evidence-based Rating System to Pain Intensity Assessment in Animal Welfare Research
W. Alonso
- 07.10 Effect of seasonal changes on the incidence risk of tail biting in Australian pigs
R. Galea, M. Stevenson, M. Lucas, K. Plush, R. Morrison, J. Zemitis, M. Jorquera-Chavez, P. Hemsworth, A. Tilbrook, L. Hemsworth

Session 8. Free communications in farm animal welfare

Room:
Chair: von Keyserlingk / Foy / Hendriks
Session Type: Free communications (bottom-up)

Theatre Session 8

- 16:20 **Plenary 7.** Working equids: linking human and animal welfare under a sustainability framework
Invited T. Tadich
- 17:00 A snapshot look at the prevalence and severity of keel bone damage in cage-free hens in Kenya
L. Jasiunas, F. Qureshi, I. Esparza, K. Oluwarore
- 17:05 Welfare Potential of rabbit farming systems
E. Murphy, A. Legrand
- 17:10 Validation guidelines of sensors used for the automatic assessment of animal welfare
P. Llonch, Q. Allueva-Molina, A. Stygar, M. Pastell, J. Maselyne, À. Ramón-Pérez, HL. Ko
- 17:20 Application of on-farm computer vision for development, improvement and validation of motion sensor ear tags to monitor welfare and health for sows
I. Bahnsen, J. R. Pedersen, D. L. Schrøder-Petersen, L. J. Pedersen, M. P. Coutant, N. S. Madsen, D. Fuhrmann, M. Gansel, C. Hansen
- 17:25 Cattle powered Internet of Things (IoT) communication system for activity detection
M. Grunewald, J. Dizdarević, D. Blažević, A. Jukan

- 17:30 How do individual pigs change their feeding patterns during welfare issues?
J. D. Bus, I. J. M. M. Boumans, D. E. Te Beest, L. E. Webb, E. A. M. Bokkers
- 17:40 With adequate drinking facilities, short-term restrictions on access to drinking water for lactating dairy cows disrupt their time budget but do not limit their water intake
E. Nizzi, O. Dhumez, M. Lemarchand, A. Chauvin, C. Hurtaud, A. Boudon
- 17:45 Effects of gestational olfactory enrichment on adaptation to weaning in pigs
E. Briard, M. Couasnon, M. Mescouto-Lopes, P. Touanel, R. Comte, E. Merlot, C. Tallet, C. Clouard
- 17:50 Good or poor welfare: How many animals do I need to assess for a reliable decision?
S. Dippel, A. Hinze, U. Knierim, S. Amler

Poster Session 8

- 08.11 Use of PLF daily measures to estimate the effects of extended heat stress in dairy cows on rest time
D. Lovarelli, G. Minozzi, F. Tiezzi, M. Guarino
- 08.12 Can science keep up with the policy to ensure banning piglet castration?
L. Morgan, T. Ignat, R. I. D. Birkler
- 08.13 Effect of human-animal relationship quality on productive performance and adrenal cortex morphology in pigs
D. Luna, L. Venegas, F. Moya, J. Calderón-Amor, M. C. Ceballos, R. Palomo, D. Cartes, M. S. Fernández, S. Guzmán-Pino, N. Butto
- 08.14 Effects of temperature on the behaviour of group-housed dairy calves during the pre-weaning period
S. E. Mcpherson, L. E. Webb, E. Bokkers, E. Kennedy
- 08.15 Shout it out loud – Effects of the rearing system on vocalization of turkey chicks
J. Stracke, M. F. Bellersen, M. Fölsing, L. Lütke Drieling, J. A. Ockenfels, N. Kemper, S. Döpjan
- 08.16 Prioritizing Equine Welfare: Implementing the '3Fs' for High-Level Sport Horses
L. Lansade, R. Phelipon, N. Hennes, A. Bret-Morel, A. Ruet
- 08.17 Reconsidering abnormal behaviour measurements in the WelFur Fox protocol
E. Ojala, A. Valros, J. Mononen
- 08.18 Trend analyses predict increasing heat stress for livestock during summer months in Northern Germany
N. Volkmann, N. Kemper
- 08.19 The effect of the introduction of stress-reducing measures on the productivity of dairy cows
E. Aplocina, L. Degola
- 08.20 Impact of Music Played in the barn on dairy cows milk productivity
L. Degola, E. Aplocina
- 08.21 Happy wings: Multifunctional elevated platforms to improve litter quality and broiler chickens welfare in commercial farm
B. Khalfi, P. Soster De Carvalho, K. Buyse, C. Lopes Carvalho, I. Khan, A. Dedeurwaerder, F. Hartmann, G. Antonissen, F. Tuytens
- 08.22 Effects of Smoke Exposure on Cattle Hematology Using Wildfire Smoke Simulations
J. Ranches, A. Santos, E. Ferri, A. L. Ramalho, C. Santos, M. Ferreira, P. Rezamand, A. Skibieli, K. Wollstein, J. Cruickshank
- 08.23 Developing a Sheep Dental Disorder Protocol for Future Welfare Assessment
S. Holt, H. Rogers, A. Prashar, F. Langford
- 08.24 Assessment of welfare in pigs with docked and undocked tails from post-weaning to slaughter
A. Zoratti, G. Chiarelli, A. Zuliani, M. Corazzin, E. Piasentier
- 08.25 Does odourised straw impact the welfare of growing pigs when tested on-farm?
M. V. Rørvang, J. Stenfelt, H. M. Rautiainen, R. Grut, C. W. Chan, S. L. A. Schild, A. Wallenbeck, A. Valros, B. L. Nielsen
- 08.26 Influence of feeding intensity on body surface temperature in dairy cows
K. Gondolf, A. Schäfer, M. Abel, D. Knob, U. König Von Borstel
- 08.27 Health assessment in Swiss dairy production with confinement or pasture-based feeding
J. Braun, B. Reidy, E. Bokkers
- 08.28 Automatic Long-Term Measurement of Lying Behavior in Crates and Free Farrowing Pens Using 3D Accelerometers
M. Knoll, L. Gygax, E. Hillmann
- 08.29 Breeding for a better survival of piglets in organic farming: consequences on maternal cortisol and neonate metabolic status
E. Merlot, D. Grivault, R. Comte, S. Moreau, S. Ferchaud, L. Canario
- 08.30 Sow mortality in Danish conventional herds increases - but not in organic herds
H. Kongsted, M. A. Krogh
- 08.31 Udder lesions on Swiss dairy goat farms in relation to duration of goat keeping, herd size and horn status
A. K. Ruckli, F. Sutter, S. Waiblinger, N. Keil

- 08.32 Cow welfare assessment using ChatGPT Vision
K. Sheng, M. Heydarirad, B. Foris
- 08.33 Weaner pigs: well occupied by automatic enrichment?
J. Probst, J. Pigge, M. Gültas, M. Wutke, P. Heseke, I. Traulsen, U. Hartmann, N. Kemper
- 08.34 Investigating the impact of loose material and space allowance on tail biting outbreaks and carcass characteristics of post weaning pigs
M. Cupido, S. Mullan, L. Boyle, K. O'Driscoll
- 08.35 Use of a 'priority lane' to increase voluntary visits to a milking robot in dairy cows
F. Johansen, P. Donnelly, G. Arnott, S. Buijs
- 08.36 Subcutaneous abscesses as welfare indicator in small ruminant dairy flocks
G. Batikas, E. Hadjiantoni, P. Mastoras, K. Mokas, S. Vouraki, G. Arsenos
- 08.37 Multidisciplinary analysis of keel bone damage in laying hens
S. Neukirchen, M. Fellmin, J. Mehlhorn, S. Petow, L. Hildebrand, B. Eusemann, S. Weigend, L. Schrader
- 08.38 The application of roller and bite-ball devices to stimulate nest-building behaviour of sows in a crating system: their effects on farrowing process and sow postures during parturition
W. Chung, J. Yun, M. Kim
- 08.39 Evaluation of seasonal effects on the welfare of pigs on outdoor farms in Ireland
N. Senanayake, K. O'Driscoll, O. Menant, L. Boyle, F. Butler
- 08.40 A systematic review of non-nutritive oral behaviours in dairy calves
C. Doelling, S. Kappel, M. Von Keyserlingk, D. Weary
- 08.41 Comparative Analysis of Behaviour and Blood Parameters of Laying Hens in Cage and Aviary systems
H. Jeon, J. Lee, J. Yun
- 08.42 A literature review of precision wearable sensors: Validation techniques for evaluating dairy cattle behavior and welfare
D. Foy, M. Brause, A. Lee, T. Smith, M. Cantor, J. Reynolds
- 08.43 Hormonal treatment of breeding sows – impact on pig welfare
M. Dopfer, C. Salzborn, E. Müller

