



ECPLF 2026

12th European Conference on Precision Livestock Farming



September
14-17, 2026

Valencia
Spain



SCIENTIFIC PROGRAMME

Scientific Committee

María Cambra López UPV, Spain
Salvador Calvet Sanz UPV, Spain
Xabier Díaz de Otálora Aguirre UPV, Spain
Francisco Maroto Molina UCO, Spain
Pol Llonch Obiols UAB, Spain
Lorena Castillejos Velázquez UAB, Spain
Daniel Berckmans EA-PLF, Belgium
Marcella Guarino EA-PLF, Italy
Michael Iwersen EA-PLF, Germany

Local Organising Committee

María Cambra López UPV, Spain
Elena Sanchis Jiménez UPV, Spain
Juan José Pascual Amorós UPV, Spain
Pablo Marín García UCH-CEU, Spain
Carlos Fernández Martínez UPV, Spain
Elena Moreno Grua UPV, Spain
Adrián Ramón Moragues UPV, Spain
Catarina Gonçalves UPV, Spain
Jorge Franch Dasi UPV, Spain

National Event Organising Committee

Javier Plaza Martín USAL, Spain
Salvador Calvet Sanz UPV, Spain
María Cambra López UPV, Spain
Lorena Castillejos Velázquez UAB, Spain
Francisco Maroto Molina UCO, Spain
Pol Llonch Obiols UAB, Spain

Welcome to ECPLF2026, Welcome to Valencia!

It is our great pleasure to welcome you to the **12th European Conference on Precision Livestock Farming (ECPLF 2026)** here in the vibrant city of Valencia.

The ECPLF is a biennial conference that brings together leading experts, researchers, and professionals from around the world to present the latest advances in research, technology, and innovation in the field of Precision Livestock Farming (PLF). The objective is to bring together experts from both the technology and animal science sectors.

This edition is dedicated to sharing scientific developments on animal monitoring systems using sensors and other technologies, under the theme '**Improving animal life**'. PLF makes use of sensors, sensing techniques and other digital technologies to collect real-time information on individuals or groups of animals and their environment, allowing the implementation of decision-support tool for farmers, veterinarians, and other stakeholders in the livestock sector. It targets all animal production systems and species where knowledge, technological innovation, and digital tools are essential. This includes companion, zoo, wildlife, lab and sport species, as well as their interactions with humans.

This innovative approach aligns with sustainable and ethical animal science, production and research, contributes to protecting animal health, enhances animal welfare, increases production traceability, and optimizes profitability across all animal species.

Due to its transversal nature, PLF integrates diverse and complementary professional profiles including animal science, agricultural engineering, veterinary science and biology, with approaches oriented towards the use of technologies, computational and data science, to monitor animals and manage the farming system. This diversity is also reflected in the conference participants, who represent multiple disciplines and perspectives. Since its first edition in 2003 in Potsdam, the ECPLF has established itself as the leading international scientific event in its field.

Throughout its biennial editions, the conference has been hosted in 10 different European countries, but never in Spain. Together with the **European Association of Precision Livestock Farming (EA-PLF)**, this edition will be jointly organised by three Spanish leading institutions in PLF: **Universitat Politècnica de Valencia (UPV)**, **Universidad de Córdoba (UCO)** and **Universitat Autònoma de Barcelona (UAB)** – as well as **REDIGA**, the Spanish research network in PLF and animal digitalization.

Additionally, **Turevents & Go**, as local organisers, will manage the event on-site, bringing over 23 years of experience coordinating congresses in the city of Valencia.

We wish you an inspiring, productive, and memorable ECPLF 2026.

GENERAL INFORMATION

Valencia in a Nutshell

Valencia is one of Spain's most vibrant and attractive cities, renowned for its Mediterranean lifestyle, golden beaches, innovative architecture and rich cultural heritage.

A city where ancient traditions blend seamlessly with modernity, Valencia offers historic monuments, lively squares, extensive green spaces and world-class cultural attractions.

Its unique character is reflected in landmarks such as the City of Arts and Sciences, the historic old town and the vast Turia Gardens, creating an urban landscape

that is both dynamic and welcoming. Located on Spain's eastern coast, Valencia enjoys a strategic position on the Mediterranean Sea, connecting major Spanish and European destinations.

The city is internationally recognised for its quality of life, sustainable urban development and thriving economy. Combining history, innovation, gastronomy and a pleasant climate throughout the year, Valencia stands out as one of the Mediterranean's most appealing destinations.

Conference Venue

Universitat Politècnica
de València (UPV)
Nexus, Building 6G, UPV

Address:

Camino de Vera s/n, 46022
<https://maps.app.goo.gl/mxsi75qvkolxnmf7>

Entrance

The closest entrance to the building is access L on Avenida de los naranjos.

How to reach Valencia

By Plane

Valencia is served by Valencia Airport. Distance from Valencia city centre: approximately 8–10 km. Travel time to the centre: 15–25 minutes by car or taxi. Public transport options include metro lines 3 and 5 and bus line 150, connecting the airport to the city centre

By High-Speed Train

AVE high-speed rail network, arriving at Joaquín Sorolla Station.

– From Madrid

Distance: approx. 303 km
Travel time: about 1 hour 40 minutes – 2 hours by AVE high-speed train.

– From Barcelona

Travel time: about 3 hours by high-speed train.

Tickets and timetables can be purchased online: Buy train tickets on Renfe (official railway website)

From the City Centre to UPV

The Universitat (UPV) is located about 4 km from Valencia city centre, close to the beach area.

Estimated travel time: 15–25 minutes.

Taxi or ride-hailing:

Approximately 10–15 minutes from the historic centre, depending on traffic.

Tram Lines 4 and 6 stop at UPV and provide direct connections to several areas of the city.

EMT bus lines 18, 40, 71, and 93 connect the city centre with the university campus.

Public transport tickets (metro, tram and bus) can be purchased at ticket machines in metro/tram stations, ticket offices, authorised kiosks, or directly on EMT buses for single rides. Travel cards such as the SUMA card allow multiple trips across Valencia's public transport network.



Social events

WELCOME RECEPTION

OUTDOOR GARDENS,

NEXUS, BUILDING 6G, UPV

Monday 14 September from 6:00 to 8:00 pm
(included in the registration fee - registration mandatory)

The organisers are pleased to welcome all participants upon their arrival at the ECPLF 2026.

Don't miss the chance to hang out with colleagues and friends and get acquainted with new colleagues from all over the world.

GALA DINNER

HOTEL LAS ARENAS

Tuesday 15 September from 8:15

Ticket: 80 euro (+ €2 revenue stamp)

The social dinner at Hotel Las Arenas Balneario Resort will be one of the highlights of the programme, taking place in an iconic beachfront hotel with spectacular views of the Mediterranean Sea and an exclusive setting that combines history, elegance, and modernity.

Las Arenas offers unique 20th-century architecture and a historic spa founded in 1898, now transformed into a hotel. A unique venue designed to encourage networking in a sophisticated and relaxed atmosphere.

Bus service will be provided.

Walking tour of Valencia

CITY CENTRE

Wednesday 16 September from 7:30 to 8:30 pm

Explore the historic heart of Valencia on a guided walking tour featuring the city's most emblematic landmarks and hidden gems. The guided tour will be in English and will last approximately 1 hour. It will take place mostly outdoors.

Participants will be requested to make their own way to the meeting point.

More information will be sent by email.

Access to the conference site and to the social events

A badge is required to be admitted to the scientific sessions and to any service purchased during your registration.

Technical tour OCEANOGRÁFIC VALENCIA

Thursday 17 September from 10:00 am to 1 pm
(included in the registration fee - registration mandatory)

Technology-driven animal welfare monitoring and conservation research.

This visit will be divided into two parts: a guided tour and free time.

The guided tour includes a visit to some of the facilities and a talk given by a member of the zoological operations team about marine animal monitoring.

We aim to show how technology enables objective monitoring of animal welfare, providing measurable data that complement direct observation and support evidence-based decisions. In addition, we will highlight how animals in controlled environments can serve as models to advance research and support the understanding and conservation of wild populations through the application of new technologies transferable to in situ conservation.

The guided tour lasts 1 hour and 30 minutes and is organized in groups of 25 people. Once the guided tour is finished, participants will have time to explore freely the Oceanogràfic aquarium.

A bus service to the Oceanogràfic will be provided.

More information will be sent by email.

Photo

A photographer will be present during the event and will be doing a photo shoot that will be used in all means of communication for the event.

Official language

The official language of the Conference is English and no simultaneous translation services will be provided.

ECPLF2026 Presentation Guidelines

Oral Presentations

Each oral presentation is allocated a total of **15 minutes** (12 minutes for the presentation, plus 3 minutes of discussion/Q&A). Presenters are kindly requested to prepare their presentation accordingly, to ensure the smooth running of the conference programme. The session chairs will make sure that each presenter is provided the same amount of time.

Presentation files in **Microsoft PowerPoint format** must be uploaded to Ex Ordo no later than **11th September**. Conference staff will ensure that each presentation file is available in the assigned room and session. Authors do not need to upload their presentation files in the meeting rooms.

Speakers will not be able to use their own computers to present; they are also requested **to be present at their session at least fifteen minutes before** the scheduled opening time of the session, to meet the chairs.

During the uploading of the oral presentation files in Ex Ordo, you will be required to confirm the presenting author and provide a short biography (up to 150 words) of the presenting author. The biography should briefly describe the author's current position and institution, areas of expertise, and other relevant professional achievements.

Poster Presentations

Posters can be mounted on the designated poster grids in the poster area from Monday 14th at 5 pm. All the posters should be mounted by Tuesday 15th at 10:30 am.

Poster size must be 90 cm width x 120 cm height.

All posters will be displayed throughout the conference. Poster presenters are expected to be present during the morning coffee break and poster sessions on **Tuesday 15th and Wednesday 16th, from 10:30 to 11:00**, to discuss their work with other attendees.

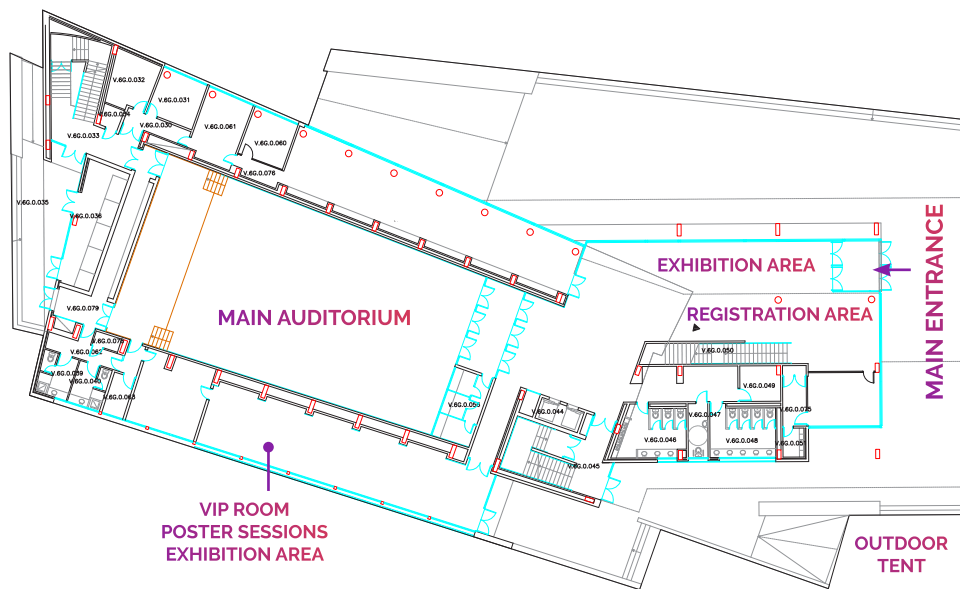
Presenters are reminded to bring their printed posters to the conference venue. No printing service will be provided on site. The conference staff will provide materials for fixing posters to grids.





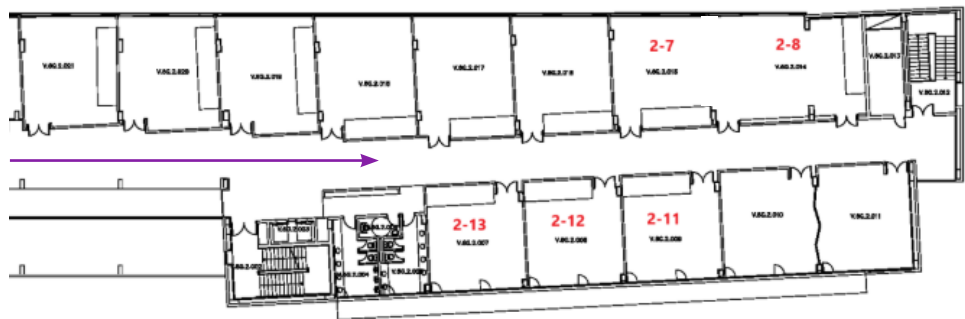
NEXUS, BUILDING 6G - Ground Floor

- Registration area
- Exhibition area
- Main auditorium & VIP Room
- Outdoor tent

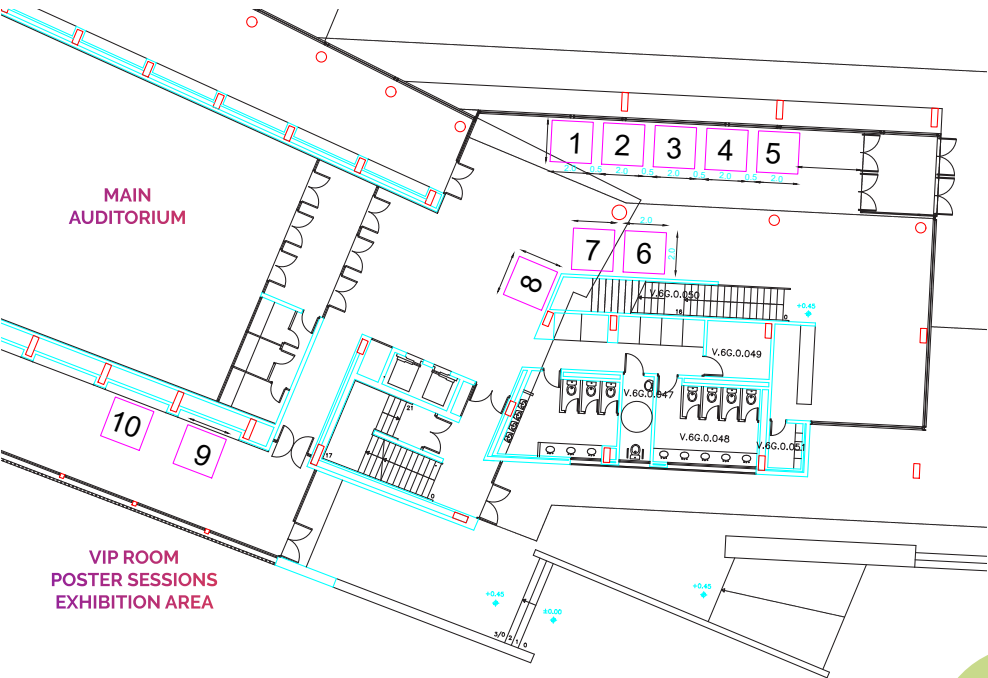


NEXUS, BUILDING 6G - Second Floor

Parallel rooms
2.7 and 2.8 | 2.11 | 2.12 | 2.13



EXHIBITION AREA



- 1 SoundTalks
- 2 Dinamica generale
- 3 Mensoft
- 4 nealia
- 5 Digitanimal
- 6 leeO - MSD Animal Health
- 7 smaXtec
- 8 Star-Oddi
- 9 MDPI
- 10 Frontiers in Veterinary Science

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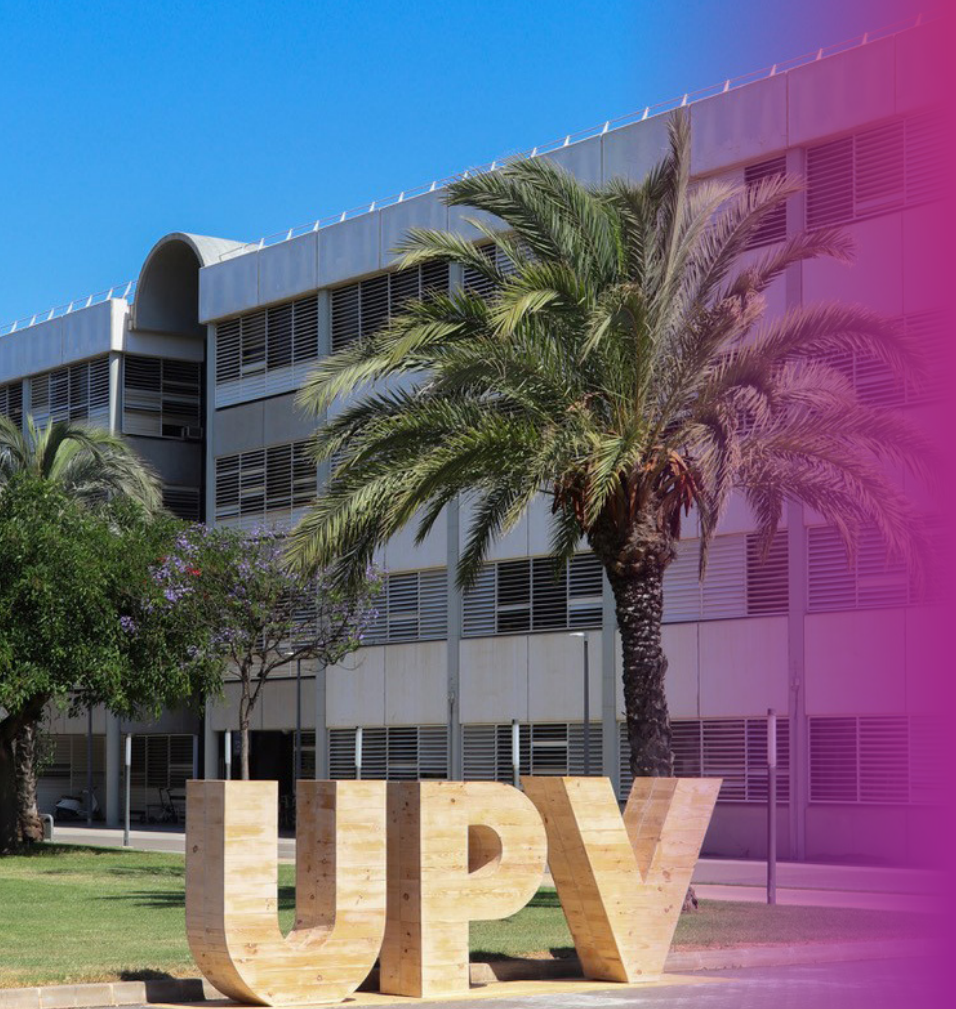


TECHNICAL SECRETARIAT



PATRONAGES





PROGRAMME AT A GLANCE

Monday **14 SEP**

	Salón de Actos ETSEAMN (Building 3P, UPV)	Aula Espai Natura ETSEAMN (Building 3G, UPV)	Room 2.13 - Nexus, 2nd floor (Building 6G, UPV)
10 am	Registration National Event		
10:45 am	National Event Conocimiento e innovación a través de la ganadería de precisión		
1 pm	Networking Lunch - National Event		
2 pm		Computer vision in PLF Training Workshop	
2:30 pm	National event Implementación en el sector. Mesa redonda	Computer vision in PLF Training Workshop <i>WORKSHOP WILL FINISH AT 6 PM</i>	EA-PLF internal meetings
5 pm	Registration ECPLF Event (Nexus, Building 6G, UPV)		
6 -8 pm	Welcome Reception (Outdoor gardens - Nexus Building 6G, UPV)		

Tuesday 15 SEP - (Nexus, Building 6G, UPV)

	Auditorium	Room 2.7 and 2.8 2 nd floor	Room 2.11 - 2 nd floor	Room 2.12 2 nd floor
8 am		Registration (Nexus, Building 6G, UPV)		
8:30 am	ECPLF2026 Opening session			
9:30 am	Keynote - PLF in Spain: Managing complexity beyond the barn			
10:30 am		Coffee + Poster session (VIP Room, Nexus, Building 6G, UPV)		
11 am	Session 1.1 Calving monitoring	Session 1.2 Pig identification and tracking	Session 1.3 PLF for poultry health	Session 1.4 Novel applications for monogastrics
12 pm	Session 2.1 Data analyses, AI and modelling in cattle	Session 2.2 Computer vision applications for pigs	Session 2.3 Field implementation barn monitoring	Session 2.4 Validation and standardisation of methods
1:30 pm		Lunch - Garden lounge tent (Nexus, Building 6G, UPV)		
2:30 pm	Keynote - Evaluating the business value of investments in PLF technologies: Moving beyond primitive to useful			
3:30 pm		Coffee + Poster session (VIP Room, Nexus, Building 6G, UPV)		
4 pm	Session 3.1 Socioeconomics and education	Session 3.2 Farm with more freedom, with precision livestock solutions from MSD Animal Health	Session 3.3 Star-Oddi's Implantable biologgers for continuous physiological monitoring in livestock	
5:15 pm to 6 pm	Session 4.1 Applications in cattle feeding	Session 4.2 Computer vision to monitor farrowing and lactation in pigs	Session 4.3 Practical PLF in poultry farming	Session 4.4 PLF in goat farming
8:15 pm		Gala Dinner (Hotel Las Arenas)		

Wednesday 16 SEP - (Nexus, Building 6G, UPV)

	Auditorium	Room 2.7 and 2.8 2 nd floor	Room 2.11 2 nd floor	Room 2.12 2 nd floor
8 am		Registration (Nexus, Building 6G, UPV)		
8:30 am	Keynote - Emotions in livestock			
9:30 am	Session 5.1 Applications in dairy cows and milk data	Session 5.2 Assessing thermal responses	Session 5.3 Environmental and resource management	Session 5.4 PLF for rabbits
10:30 am		Coffee + Poster session (VIP Room, Nexus, Building 6G, UPV)		
11 am	Session 6.1 PLF health and welfare	Session 6.2 Computer vision applications for cattle	Session 6.3 PLF for poultry welfare	Session 6.4 PLF for horses
12 pm	Session 7.1 PLF for cattle health	Session 7.2 PLF in grazing systems	Session 7.3 Data analyses, AI and modelling in pigs	Session 7.4 PLF to estimate body weight
1:30 pm		Lunch - Garden lounge tent (Nexus, Building 6G, UPV)		
2:30 pm	Keynote - The tomorrow of PLF: Sensor-driven animal welfare assessment, economic payoffs, and the power of data spaces			
3:30 pm		Coffee + Poster session (VIP Room, Nexus, Building 6G, UPV)		
4 pm	Innovation Roundtable: Bridging research and industry			
5 to 6 pm	Closing ceremony and awards			
7:30 to 8:30 pm		Walking Tour of Valencia		

Thursday 17 SEP

	Oceanogràfic Valencia from 10 am to 1 pm	Aula Espai Natura ETSEAMN (Building 3G, UPV) from 8.30 am to 2 pm	
	Technical tour: Technology-driven animal welfare monitoring and conservation research	SYNFEED Workshop "Smart proteins: Transforming precision animal nutrition"	

14
SEP

Salón de Actos - ETSEAMN (Building 3P, UPV)

**EVENTO NACIONAL
CONOCIMIENTO E INNOVACIÓN A TRAVÉS
DE LA GANADERÍA DE PRECISIÓN**

- 10 am Registro Evento Nacional
- 10:45 am Bienvenida
María Cambra-López, Salvador Calvet Sanz, Javier Plaza
- 11 am Del desarrollo a la aplicación: Conferencias invitadas
Daniel Martín Collado, Luciano Adrián González
- 12 pm Taller demostrativo de tecnologías

Carlos Palacios Riocerezo, Eseró Padrón Tejera, Eduardo Rosa González,
Daniel Alexander Méndez Reyes, María Roda Tena
- 1 pm Comida networking
- 2:30 pm Implementación en el sector: Mesa redonda
Javier Lorente Martín, Marc Mases Rosines

Moderan: Javier Plaza Martín, Salvador Calvet Sanz
- 4:30 pm Clausura

Aula Espai Natura - ETSEAMN (Building 3G, UPV)

- 2 pm Computer vision in PLF Training Workshop
Chaired by: Lluís Miquel Plà-Aragonés and María Cambra-López
- 2-2:10 pm Opening
Lluís Miquel Pla, María Cambra-López
- 2:10-4 pm Computer vision and sound analysis – Example workflows
Tomás Norton - *KU Leuven*
- 4-5:50 pm Machine learning models – Data leakage and how to avoid it
Dan Jensen - University of Copenhagen
- 5:50-6 pm Closing and final discussion
Lluís Miquel Pla

Room 2.13 - Nexus, 2nd floor (Building 6G, UPV)

2 pm
to 6 pm

EA-PLF internal meetings

Auditorium - Nexus (Building 6G, UPV)

5 pm
to 6 pm

Registration

Outdoor gardens - Nexus (Building 6G, UPV)

6 pm
to 8 pm

Welcome Reception

15
SEP

Auditorium - Nexus (Building 6G, UPV)

8 am

Registration

8:30 am

ECPLF2026 Opening session

María Cambra-López - Universitat Politècnica de València, Spain
Daniel Berckmans - EA-PLF, Belgium
Vice-Rectorate for Research - Universitat Politècnica de València,
Concejalía de Innovación, Turismo y Captación de Inversiones - Ayuntamiento
de València, Spain
Dirección General de la Producción Agrícola y Ganadera - Conselleria de
Agricultura, Agua, Ganadería y Pesca

9:30 am

Keynote - PLF in Spain: Managing complexity beyond the barn
Chaired by: Daniel Berckmans

Francisco Maroto Molina - University of Córdoba, Spain

VIP Room - Nexus, Ground floor (Building 6G, UPV)

10:30 am

Coffee + Poster session

Session 1.1 Calving monitoring

Chaired by: Michael Iwersen - Eseró Padrón Tejera

- 11 am **Integration of IoT sensors and machine learning for parturition detection of rangelands cows**
Andres Perea (New Mexico State University, United States), Mehmet Bakir, Andrew Cox, Yuxi Wang, Micah Funk, Maximiliano Spetter, Huiping Cao, Richard Estell, Brandon Bestelmeyer, Andres Cibils, Santiago Utsumi
- 11:15 am **Temporal distribution of behavioural anomalies identified by a GNSS-based calving detection algorithm for grazing cattle**
Manuel Jesús García García (University of Cordoba, Spain), Eseró Padrón Tejera, Dolores, C. Pérez Marín, María del Pilar Torralbo Muñoz, Francisco Maroto-Molina
- 11:30 am **Development of a machine learning model for dairy cow calving detection based on animal behavior**
Milos Kosanovic (Datamars SA, Serbia), Jelena Jakimov
- 11:45 am **Acoustic signatures of calving: passive bioacoustic monitoring to detect early indicators of dystocia in dairy cows**
Clara Bordin (University of Turin, Italy), Laura Ozella, Edoardo Fiorilla, Marco Bovo, Giulia Mussa, Stefania Chessa, Daria Valente

Room 2.7 and 2.8 - Nexus, 2nd floor (Building 6G, UPV)

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Session 1.2 Pig identification and tracking

Chaired by: Miriam Piles - Nibas Chandra Deb

- 11 am **Leveraging overhead feeding images for reliable pig reidentification**
Eric Psota (PIC North America, United States), Robert Fitzgerald, Justin Holl
- 11:15 am **Multi-view piglet counting system using homography and elliptical segmentation**
Shubham Bery, Eric Psota (PIC North America, United States), Justin Holl, Robert Fitzgerald
- 11:30 am **Group-wise closed-set few-example pig identification method via prototype matching**
Peiguang Xin (China Agricultural University, China), Juncheng Ma, Hao Wang, Chaoyuan Wang
- 11:45 am **Non-visual monitoring of swine: A review of WiFi Channel State Information for animal tracking**
Felipe Rodrigues Picchi, Brett Ramirez (Iowa State University, United States), Gustavo Silva, David Rosero

Session 1.3 PLF for poultry health

Chaired by: Daniel Berckmans - Pauline Créach

- 11 am **Age-dependent thermoregulatory dynamics in broiler chickens assessed through multiregional infrared thermal imaging**
Daniella Moura (State University of Campinas, Brazil), Irenilza Naas, Rimena Vercellino
- 11:15 am **Early detection and targeted intervention in broiler production: A Precision Livestock Farming approach to manage enteric disorders**
Federica Borgonovo (University of Milan, Italy), Marcella Guarino, Francesca Leone, Carlo Brandolese, Matteo Grotto, Cristiano Mazzi, Valentina Ferrante
- 11:30 am **Economic impact of early coccidiostats interventions by using a biosensor as an early alarm system for coccidiosis in fast-growth broilers in the Netherlands**
Jonathan Munoz Perez, Mariska van der Voort (Wageningen University and Research, The Netherlands), Henk Hogeveen
- 11:45 am **Design and characterisation of a PWM-controlled spray vaccination robot: Droplet distribution and vaccine delivery assessment in poultry**
Siqi Wei, Peng Yin, Zheyu Zhang, Wei Chu, Xule Ruan, Di Wang, Xinyu Wu, Rui Gao, Qin Tong (China Agricultural University, China), Baoming Li, Guanghui Teng, Chaoyuan Wang, Weichao Zheng, Yang Wang, Wen Yao, Longshen Liu

Session 1.4 Novel applications for monogastrics

Chaired by: Aline Remus - Vicente López Sacanell

- 11 am **SYNFEED project: Synthetic proteins for sustainable animal feeding**
Juan José Pascual (Universitat Politècnica de València, Spain), María Cambra-López, Victor Guallar, Wouter H Hendriks, Jean Loup Faulon, Borja Valverde-Pérez, Arnaud Dechesne
- 11:15 am **Protein language models for generating feed-oriented proteins with controlled amino acid composition**
Violeta Basten Romero, Rubén Muñoz-Tafalla, Anna Díaz-Rovira, Bertran Miquel-Oliver, Isaac Filella-Mercè, Victor Guallar (BSC-ICREA, Spain)
- 11:30 am **A computer-vision framework for automated tracking and individual identification of poultry in pen settings**
Glory Ademola, Hector Santos Villalobos, Tom Tabler, Sai Swaminathan, Supun Hewage, Mustafa Jaihuni, Yang Zhao (University of Tennessee, United States)

- 11:45 am Swine feeding intake and behavior in a wet-dry feeder using a newly developed RFID-equipped system
Tami Brown-Brandl (University of Nebraska-Lincoln, United States), Sudhendu Raj Sharma, Mark Brincks, Dave Klocke, Katie Holtz

Auditorium - Nexus (Building 6G, UPV)

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Session 2.1 Data analyses, AI and modelling in cattle

Chaired by: Victor Cabrera - Adriana Siurana Marina

- 12 pm Longitudinal AI predictions of feedlot beef cattle performance from accumulated environmental conditions
Alex S.C. Maia (State University of São Paulo, Brasil), Gustavo A.B. Moura, Vinicius F. C. Fonsêca, Laura R. Pan, Laura S. Pinto, Jessica Gusmão, Rodrigo Pacheco, Izabelle AMA Teixeira, Hugo Milan
- 12:15 pm Machine learning models to forecast dairy cows' productivity in future lactations using Automatic Milking System data
Karina Brotto Rebuli (NOVA University of Lisbon, Portugal), Laura Ozella, Fernando Masia, Elisa Vrieze, Mario Giacobini
- 12:30 pm Combining reproductive outcomes predictors and automated estrus alerts recorded during the voluntary waiting period identified subgroups of cows with different reproductive performance potential
Stefan Borchardt, Augusto Madureira, Derk Janssen (Freie Universität Berlin, Germany)
- 12:45 pm Evaluation of the association between automated estrus alerts from activity monitoring systems in early lactation with reproductive performance in lactating Holstein cows: A Meta-Analysis
Friederike Gerstenberger, Marc Drillich, Tony Bruinje, Julio Giordano, Augusto Madureira, Stefan Borchardt (Freie Universität Berlin, Germany)
- 1 pm Optimizing dairy cow replacement decisions using deep reinforcement learning in an evolving stochastic environment
Yijing Gong, Lazaro da Silva, Victor Cabrera (University of Wisconsin-Madison, United States)

Room 2.7 and 2.8 - Nexus, 2nd floor (Building 6G, UPV)

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Session 2.2 Computer vision applications for pigs

Chaired by: Pol Llonch - Eric Psota

- 12 pm Computer vision based classification of pig tail postures
Jens Sloomans, Michèle Geunes, Dong Liu, Tomas Norton (KU Leuven, Belgium)

- 12:15 pm **MSDAG-ConvNeXt: Multi-scale discriminative feature aggregation for automated pig body cleanliness assessment in commercial farms**
Hao Wang, Bin Sun, Xiao Yang, Juncheng Ma, Cha Liang, Renli Qi, Yixue Liu (Chongqing Academy of Animal Sciences, China), Chaoyuan Wang
- 12:30 pm **Evaluating multi-view RGB-only 3D reconstruction of pigs using VGGT**
Sudhendu Raj Sharma (University of Nebraska-Lincoln, United States), Eric Psota, Tami Brown-Brandl
- 12:45 pm **In vivo carcass traits prediction using dual-view multi-image derived features in fattening pigs**
Bruno Batista de Medeiros (University of Georgia, United States), Chamak Saha, Taofeek Abdulrahman, Rebeka Magalhaes Da Costa, Richard Leach, Yijian Huang, Mauricio Botero, Anderson Antonio Carvalho Alves
- 1pm **Pilot testing of the "Lesion-Detect" system for automated lung lesions scoring in pigs during commercial slaughtering process**
Thomas Banhazi (UPWrr, UniSQ, InnoTech Vision ApS, PLF Agritech, Australia), Mark Dunn, Annamaria Banhazi, Josep Reixach, Angela Ramon Pérez, Pol Llonch, Veljko Vujacic, Jovan Sudar, Nemanja Kajari, Jarissa Maselyne, Noémie Van Noten, Frank Tuytens
- 1:15 pm **Weight-Detect instrument predicted the onset of respiratory infection in pigs 6 days before the clinical diagnosis by monitoring weight changes**
Thomas Banhazi (UPWrr, UniSQ, InnoTech Vision ApS, PLF Agritech, Australia), Mark Dunn, Annamaria Banhazi, Josep Reixach, Angela Ramon Pérez, Pol Llonch, Jarissa Maselyne

..... **Room 2.11 - Nexus, 2nd floor (Building 6G, UPV)**

Session 2.3 Field implementation barn monitoring

Chaired by: Pilar Merino - Enrica Santolini

- 12 pm **Improving energy efficiency in dairy cattle barn ventilation systems: A multi-season comparison of ETI and THI-based control**
Carlos Alejandro Perez-Garcia (University of Bologna, Italy), Marco Bovo, Stefano Benni, Daniele Torreggiani, Patrizia Tassinari
- 12:15 pm **Modeling ammonia emissions in pig barns using physiological and nutritional parameters: preliminary report**
Nibas Chandra Deb (CITA-IVIA, Universitat Politècnica de València, Spain), Carlos Fernández, Salvador Calvet Sanz, Paloma García-Rebollar, Olga Piquer, Alba Cerisuelo

12:30 pm **Enviro-Detect systems comprehensively monitor the environmental conditions in European pig, poultry and cattle production facilities**
Thomas Banhazi (UPWr, UniSQ, InnoTech Vision ApS, PLF Agritech, Australia), Annamaria Banhazi, Uri Marchaim, Idan Kopler, Aviv Asher, Kevin Mallinger, Ildiko Tikasz, David Janke, Sabrina Hempel, Sebastian Opalinski, Katarzyna Olejnik, Eugen Kokin, Josep Reixach, Veljko Vujacic, Jovan Sudar, Nemanja Kajari, Jarissa Maselyne, Stefan Gunnarsson

12:45 pm **Assessing CFD simulations gases concentration and dispersion in a naturally ventilated dairy barn**
Enrica Santolini (University of Bologna, Italy), Marco Bovo, Alberto Barbaresi, Daniele Torreggiani, Patrizia Tassinari

1 pm **A computational fluid dynamics model of a commercial egg incubator**
Melvy Fernandes (Mississippi State University, United States), Greg Burgreen, Tulasi Ram Vechalapu, Jessica Drewry, Joseph Purswell, Shanti Bhushan

..... Room 2.12 - Nexus, 2nd floor (Building 6G, UPV)

Session 2.4 Validation and standardisation of methods

Chaired by: Dan Jensen - Andrea Parmiggiani

12 pm **Creating sensor-invariant indicators of atypical rising behaviours in dairy cows**
Adrien Kroese (Swedish University of Agricultural Sciences, Sweden), Lena-Mari Tamminen, David Berthet, Moudud Alam, Nils Fall, Niclas Högberg, Stijn Brouwers

12:15 pm **M3Ethos: a semi-automatic software for animal behavior annotation**
Andrea Parmiggiani (KU Leuven, Belgium), Dong Liu, Tomas Norton

12:30 pm **Train less, measure more: behavioral phenotyping of pigs with foundation vision models and machine learning**
Juan Steibel (Iowa State University, United States), Ye Bi, Mina Shumaly, Bimala Acharya, Isaac Berg, Jeremy Perez, Anna Johnson, David Rosero, Tomas Norton

12:45 pm **Signal or artefact? Ensuring reliability in animal health alerts and robustness measurements**
Miriam Piles (IRTA, Spain), Cecilia Aguilar-Vega, Maria Marroco, Joaquim Tarres, Beatriz Garcia-Morante

1pm **Leveraging Multi-Agent System architectures to solve interoperability in Precision Feeding Systems**
Vicente López Sacanell (Universitat de Lleida, Spain), Lluís Miquel Plà-Aragonés

1:15 pm **SIMPACT-X: Enhancing transparency in Precision Livestock Farming through data-supported explanations**
Elisabeth Mayrhober(University of Applied Sciences Upper Austria, Austria),
Stephan Winkler

1:30 pm Lunch

Garden lounge tent - Nexus (Building 6G, UPV)

..... Auditorium - Nexus (Building 6G, UPV)
.....
2:30 pm Keynote - Evaluating the business value of investments in PLF technologies:
Moving beyond primitive to useful
Chaired by: Michael Iwersen

Dale Polson - Cognitive Ag, LLC Ankeny – Iowa – USA

3:30 pm Coffee + Poster session

VIP Room - Nexus, Ground floor (Building 6G, UPV)

..... Auditorium - Nexus (Building 6G, UPV)
.....
Session 3.1 Socioeconomics and education
Chaired by: Mariska van der Voort - Michael Odintsov Vaintrub

4 pm **Bridging tradition and technology: Students perceptions of digital tools in dairy herd management**
Karina Weimar, Michael Iwersen (Ludwig-Maximilians University Munich, Germany), Wolfgang Heuwieser, Marc Drillich

4:15 pm **Defining educational needs for Precision Livestock Farming: Insights from industry, faculty, and students**
Tami Brown-Brandl (University of Nebraska-Lincoln, United States), Sydney Brown, Joao Dorea, Isabella C.F.S. Condotta, Julia McQuillan, Hector Menedez, Verônica Pacheco, Tomas Norton

4:30 pm **Understanding barriers, limitations and facilitators for the technological innovation in farms**
Blanca Fajardo Vilorio, Salvador Calvet Sanz (Universitat Politècnica de València, Spain), Fernando Estellés Barber, Clara Díaz, Maria Jesús Carabaño, Eduardo Rosa, Pilar Merino, Manuel Romero Huelva, Daniel Martín Collado

4:45 pm **Detection of farmers' burnout and depression via monitoring the mental energy balance using wearables**
Alberto Pena Fernandez, Daniel Berckmans (KU Leuven, Belgium - University of Tennessee, United States)

Room 2.7 and 2.8 - Nexus, 2nd floor (Building 6G, UPV)

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Session 3.2 Farm with more freedom, with precision livestock solutions from MSD Animal Health

Chaired by: Miquel Colell

4 pm Use of LeeO Precision Livestock Solution in Monitoring Trial
Natalia Yeste

The Future of Precision Farming with SenseHub Swine
John Kolb

SenseHub Ruminants – Farm with More Freedom
Carolina Tejero

Room 2.11 - Nexus, 2nd floor (Building 6G, UPV)

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Session 3.3 Star-Oddi's Implantable biologgers for continuous physiological monitoring in livestock

Chaired by: Asgeir Bjarnason

4 pm Physiology in Numbers: From Raw Signals to Biological Insight
Asgeir Bjarnason

Lessons from the Field: Applied Biologging in Livestock Research
Alfonso Abecia

Auditorium - Nexus (Building 6G, UPV)

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Session 4.1 Applications in cattle feeding

Chaired by: Lorena Castillejos - Manuel Garcia

5:15 pm Comparison between a traditional and a tool-based weaning method in dairy calves
Daniela Lovarelli, Rosa Martecchini, Federica Borgonovo, Marcella Guarino (University of Milano, Italy)

5:30 pm Intelligent feeding strategies for dairy cows
Adriana Siurana Marina (Universitat Autònoma de Barcelona, Spain) Eva Armengol, Peter Kool, Spyros Zormpas, Lorena Castillejos

5:45 pm Characterizing feed efficiency in Angus x Friesian beef cattle using precision livestock technologies
Maria Roda (Universitat Autònoma de Barcelona, Spain), Marçal Verdú Piqué, Adriana Siurana Marina, Eva Armengol, Lorena Castillejos

Session 4.2 Computer vision to monitor farrowing and lactation in pigs

Chaired by: Tami Brown-Brandl - Bruno Batista de Medeiros

- 5:15 pm **PigLife: AI-based behavioural monitoring of sows and piglets in farrowing pens**
Pieter-Jan De Temmerman (ILVO, Belgium), Maarten Perneel, Laura Ingelbrecht, Beele Garré, Marijke Aluwé, Dominiek Maes, Jarissa Maselyne
- 5:30 pm **Automatic detection and performance monitoring of farrowing using computer vision**
Raúl David Guevara, Sergi Díaz, Miquel Romero, Albert Roca-Llavadot (Ctrl4 Enviro, S.L., Spain), Deborah Temple, Pol Llonch, Anton Gomà, Eva Mainau
- 5:45 pm **Computer Vision analysis of piglet occupancy patterns in standard and alternative farrowing pens**
Veronica Pacheco (University of Nebraska-Lincoln, United States), Diego Leal, Luciane Silva Martello, Rafael Vieira Sousa, Sudhendu Raj Sharma, Tami Brown-Brandl

Session 4.3 Practical PLF in poultry farming

Chaired by: David Speller - Gerardo José Ginovart-Panisello

- 5:15 pm **From field to data: A human-centric PLF framework for smallholder poultry farmers in Kenya**
Michael Odintsov Vaintrub (Regrowth, Italy), Pierfrancesco Di Giuseppe
- 5:30 pm **Identification of challenges on the way to digitalization in broiler fattening in Germany**
Andrii Besieda, Martin Kraft, (Johann Heinrich von Thünen Institute, Germany), Anne-Kathrin Schwab, Christina Umstätter
- 5:45 pm **An orientation-aware YOLOv11-OBb based algorithm for automatic identification and tracking of piling resistance and aversion in laying hens**
Zhenlong Wu (KU Leuven, Belgium), Sam Willems, Dong Liu, Michael Toscano, Alex Johny, Sabine Gebhardt-Henrich, Nathalie Sleenckx, Tomas Norton

Session 4.4 PLF in goat farming

Chaired by: Carlos Fernández - Francesco Martini

- 5:15 pm **Exploratory analysis of tracking algorithms for intensive goat farming**
Daniel Alexander Mendez Reyes, Blanca Fajardo Vilorio,
Eliseo Gil Vidal, [Salvador Calvet Sanz](#) (Universitat Politècnica de València,
Spain), Andrea Costantino
- 5:30 pm **Behavioral monitoring of dairy goats under heat stress conditions using activity collars**
Aharon Gomez Mesonero, Daniel Alexander Mendez, Blanca Fajardo Vilorio,
Mahmoud Hassan, Alberto Sánchez García, Fernando Estellés Barber, David
Yañez Ruiz, [Manuel Romero Huelva](#) (CSIC, Spanish Research Council, Spain)
- 5:45 pm **Quantifying flavour preferences in dairy goat kids using smartfeeders**
Ines Rivelli, David Yañez Ruiz, Marta Blanch, [Manuel Romero Huelva](#) (CSIC,
Spanish Research Council, Spain)
- 8:15 pm Gala dinner

Hotel Balneario Las Arenas Resort

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SEP

Auditorium - Nexus (Building 6G, UPV)

8 am Registration

8:30 am Keynote - Emotions in livestock
Chaired by: Marcella Guarino

Jun Bao - Northeast Agricultural University (NEAU), China

Session 5.1 Applications in dairy cows and milk data

Chaired by: Marco Bovo - Héctor Salas

9:30 am **Implementing interactive digital guides for the dissemination of the proper use of milking technologies in developing countries**
Giovanni Usai, Gabriele Sara, Daniele Pinna, Maria Sabbagh, Luciano Gutierrez, Maria Caria, Giuseppe Todde (University of Sassari, Italy)

9:45 am **Advancing on-farm milk composition monitoring using LW-NIR spectroscopy**
Jose A. Diaz-Olivares (KU Leuven, Belgium), Leandro Paulo da Silva, Javier Erick Lobatón Villa, Xinyue Fu, Arnout van Nuenen, Ben Aernouts

10 am **Assessing the impact of equipment cleanliness on an on-farm NIR sensor predictions of milk protein content**
Arnout van Nuenen, Jose A. Diaz-Olivares (KU Leuven, Belgium), Wouter Saey, Ben Aernouts

Room 2.7 and 2.8 - Nexus, 2nd floor (Building 6G, UPV)

Session 5.2 Assessing thermal responses

Chaired by: Javier Plaza - Raúl David Guevara

9:30 am **A dynamic CFD-physiological framework for dairy cow thermal interactions**
Yuxiao Zhao (TU Wien, Austria), Chaoyuan Wang, Fei Qi

9:45 am **Practical insights into evaluating pig body temperature monitoring technologies: A review**
Oi In Put (Ghent University, ILVO, Belgium), Jens Slootmans, Steven Lecompte, Jarissa Maselyne

10 am Reactions of pig body as biosensors for indoor thermal environment evaluation
Qiuju Xie (Northeast Agricultural University, China), Jiaming Gu, Shilei Cao, Xiaofei Sun

10:15 am Thermography as a non-invasive tool to assess physiological variation in chickens during the tonic immobility test
Edoardo Fiorilla (University of Turin, Italy), Clara Bordin, Achille Schiavone, Laura Ozella

Room 2.11 - Nexus, 2nd floor (Building 6G, UPV)

Session 5.3 Environmental and resource management

Chaired by: Salvador Calvet Sanz - Eduardo Rosa

9:30 am Maestr'eau: a cross-border diagnostic approach to agricultural and dairy water management
Laura M. Dale (Regional Association for Performance and Quality Inspection in Animal Breeding of Baden Wuerttemberg, Germany), Stephane David, Anna Al Baqain, Annabelle Ragot, Elisa Strang, Cecile Hary, Noemie Bureth, Clement Eck, Romain Salles, Sophie Weidmann

9:45 am InComfort-Sensor: An electronic device to measure respiration rate of livestock under field conditions
Hugo Milan, Gustavo A. B. Moura, Valéria OV Araújo, Alan AR Maia, Laura R. Pan, Laura S. Pinto, Vinicius F. C. Fonsêca, Alex S.C. Maia (State University of São Paulo, Brazil)

10 am Optimizing sensor density for accurate manure temperature profiling in deep-pit swine barns
Wyatt Kendall, Brett Ramirez (Iowa State University, United States), Hanwook Chung, Daniel Andersen

Room 2.12 - Nexus, 2nd floor (Building 6G, UPV)

Session 5.4 PLF for rabbits

Chaired by: Juan José Pascual - Adrian Ramon-Moragues

9:30 am Characterisation of feeding behaviour in breeding rabbits using electronic feeders
Adrian Ramon-Moragues (Universitat Politècnica de València, Spain), Alberto Arnau-Bonachera, Eugenio Melchor Martínez-Paredes, Jorge Franch-Dasí, Pablo Jesús Marín García, Juan José Pascual, María Cambra-López

- 9:45 am **Can the reproductive status in rabbit females be predicted by their feeding behaviour?**
Adrian Ramon-Moragues, Enrique Gutierrez-Alvarez, Alberto Arnau-Bonachera, Eugenio Melchor Martínez-Paredes, Jorge Franch-Dasí, Pablo Jesús Marín García, Juan José Pascual, María Cambra-López (Universitat Politècnica de València, Spain)
- 10 am **Heat-stress response assessed by infrared thermography in two rabbit lines divergently selected for environmental variability of litter size**
Daniel Serrano Jara (CIAGRO-UMH, Spain), Iván Agea, María José Argente, María de la Luz García
- 10:15 am **Integrating internal metabolomic phenotyping into Precision Livestock Farming through wildlife conservation applications**
César Cortés García (Universidad Cardenal Herrera CEU, Spain), Mette Skou Hedemann, Jorge Mateo López, Lola Llobat, María Cambra-López, Juan José Pascual, Ignacio García Bocanegra, Carlos Rouco, Pablo Jesús Marín García
- 10:30 am Coffee + Poster session
VIP Room - Nexus, Ground floor (Building 6G, UPV)

Auditorium - Nexus (Building 6G, UPV)

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Session 6.1 PLF health and welfare

Chaired by: Fabian Erusalimsky - Federica Borgonovo

- 11 am **Can PLF-use reduce environmental medicinal veterinary products?**
Alberto Pena Fernandez, Marcella Guarino, Daniel Berckmans (KU Leuven, Belgium - University of Tennessee, United States)
- 11:15 am **Early detection of thermal stress thresholds and neural networkbased prediction of its impact on dairy cattle production**
Eduardo Rosa (NEIKER, Spain), Rodrigo Azevedo, Laura Rincón, Pilar Merino
- 11:30 am **Relations between behavioural synchrony and a postpartum health score in dairy cows**
Brigitte de Bruijn (Wageningen University and Research, Netherlands), Rudi de-Mol, Kees van Reenen, Ingrid van Dixhoorn
- 11:45 am **Machine-learning-based vocal distress detection in piglets: Validation with cortisol biomarkers under controlled and aggression-induced conditions**
Sreenivasa Upadhyaya, Arne Panis, Linsey Dewitvanhaelen, Wim Buyens, Dries Berckmans, Erik Vranken, Veerte Vanhoeck, Ingrid Somers, Riet Spaepen, Bart Vennekens, Sandy Van de Craen, Bart Forier, Fabian Erusalimsky (SoundTalks NV, Belgium)

Session 6.2 Computer vision applications for cattle

Chaired by: Tomás Norton - Mathias Gosch

- 11 am **Evaluation of computer vision algorithms for monitoring lying behaviour and rumination activity in dairy cows**
Mathias Gosch (University of Veterinary Medicine Vienna, Austria), Barbara Pichlbauer, Hannah Möblacher, Gregor Schoder, Maciej Oczak, Michael Iwersen
- 11:15 am **Three-dimensional cattle facial reconstruction: A comparative analysis and an improved mixed Gaussian Splatting pipeline**
Yaowu Wang (Institute of Advanced Displays and Imaging, Henan Academy of Sciences, China), Hang Shu, Huan Zhao, Tianyi Ma, Shiqian Wu
- 11:30 am **Explainable artificial intelligence for improving trust in computer vision models for action recognition of cattle**
Kui Zhao (TU Wien, Austria), Salma Daadouch, Peter M. Roth, Margrit Gelautz

Session 6.3 PLF for poultry welfare

Chaired by: Yang Zhao - Monica Mora

- 11 am **From water to welfare: Early immune system activation detection**
David Speller, Johanna van der Stroom, Heiner Lehr (Beak Analytics, Spain)
- 11:15 am **Assessment of broiler welfare: Access to resources**
Didier Concorde (INRAE, France), Sylvain L'Hermite, Pauline Créach, Noslen Hernandez Gonzalez
- 11:30 am **Assessment of broiler welfare: Estimation of behavioural time budgets**
Pauline Créach (ITAVI, France), Sylvain L'Hermite, Didier Concorde, Noslen Hernandez Gonzalez
- 11:45 am **Impact of commercial transport on day-old chicks welfare using IoT sensors**
Marcos Moreno-Blanco (Universitat Ramon Llull, Spain), Ester Vidaña-Vila, Tesa Panisello, Silvia Riva, Rosa Ma Alsina-Pagès, Gerardo José Ginovart-Panisello

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Session 6.4 PLF for horses

Chaired by: Francisco Maroto Molina - Julien Philippart

- 11 am **Sensor-based analysis of behaviour time budgets in young warmblood stallions entering initial preparation for licensing**
Fabienne Eichler (Leibniz Institute for Agricultural Engineering and Bioeconomy, Germany), Lara Klitzing, Saskia Strutzke, Franziska Pilger, Laura Kroschel, Christa Thöne-Reineke, Gundula Hoffmann, Katharina Kirsch
- 11:15 am **Identification of horse behaviours using deep learning techniques**
Claudia Giannone (University of Bologna Italy), Chiara Maccario, Elie Atallah, Emanuela Dalla Costa, Marco Bovo, Daniele Torreggiani, Patrizia Tassinari
- 11:30 am **Equine limb thermography: anatomical patterns and inter-subject variability**
Marta Lozano Fuentes, Clara Bordin (University of Turin, Italy), Edoardo Fiorilla, Juan Manuel Lomillos-Pérez, Rosangela Odore, Alessia Commisso, Paola Badino, Emanuela Valle, Laura Ozella
- 11:45 am **Can rider's sleep and mental state influence competition results in equestrian sports?**
Adelien Malisse, Alberto Peña Fernández, Tatiana Vinardell, Tom Mariën, Wendy Laeremans, Daniel Berckmans (KU Leuven, Belgium - University of Tennessee, United States)

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Session 7.1 PLF for cattle health

Chaired by: Laura Ozella - Elisabeth Mayrhuber

- 12 pm **Unsupervised machine learning for identifying Somatic Cell Count patterns in voluntary milking system data**
Muhammad Ikhsan Sani (Wageningen University and Research, Netherlands), Mariska van der Voort, Ilka Christine Klaas, Henk Hogeveen, Bedir Tekinerdogan
- 12:15 pm **Development of a machine learning model for dairy cow health monitoring based on animal behavior**
Nevena Stanković, Adriane Zart, Milos Kosanovic (Datamars SA Serbia)
- 12:30 pm **Rumination time during the first week postpartum and its association with milk production, health, and culling in early lactation.**
Jan Phillip Wille (Freie Universität Berlin, Germany), Augusto Madureira, Stefan Borchardt

- 12:45 pm **Cross-farm evaluation of raw vs modelled automated milk feeder data for detecting disease in pre-weaned calves**
Dan Jensen (University of Copenhagen Denmark), Anouk Veldhuis, Inge Santman-Berends, Elisa Vrieze, Leonardo Victor de Knegt
- 1 pm **Predicting time to culling in dairy cows from routine herd records using machine learning**
 Lazaro da Silva, Yijing Gong, Victor Cabrera (University of Wisconsin-Madison, United States)
- 1:15 pm **Detecting health issues in group-housed fattening calves via RFID and computer vision**
Maria del Pilar Torralbo Muñoz (University of Cordoba, Spain), Manuel Jesús García García, Eseró Padrón Tejera, Dolores C. Pérez Marín, Francisco Maroto Molina

..... Room 2.7 and 2.8 - Nexus, 2nd floor (Building 6G, UPV)

Session 7.2 PLF in grazing systems

Chaired by: José-Alfonso Abecia - Andres Perea

- 12 pm **Design framework for bio-logging devices for monitoring grazing ruminants**
Julien Philippart (Research Fellow of the Fonds de la Recherche Scientifique Belgium), Essomandan Urbain Kokah, Frédéric Lebeau, Jérôme Bindelle
- 12:15 pm **Landscape-driven grazing dynamics of extensive cattle in Gorbeia Special Area of Conservation (Basque Country)**
Ainhoa Urkijo (NEIKER Spain), Rodrigo Azevedo, Andrea Martinez-Arribas, Lucia Varela-Castro, Isabel Albizu
- 12:30 pm **Assessing the effect of oak trees on the spatial selectivity of grazing cattle using GNSS tracking collars**
Eseró Padrón Tejera (University of Cordoba, Spain), Manuel Jesús García García, María del Pilar Torralbo Muñoz, Dolores C. Pérez Marín, Francisco Maroto Molina
- 12:45 pm **Visual behavioural indicators of lambing in ewes: Foundations for automated birth detection**
 Vera Gebhard, Dominik Häfner, Gets Magana, Denise Vandeweyer, Holm Zerbe, Katja Voigt (Ludwig-Maximilians University Munich, Germany)
- 1 pm **Assessment of rectal, FLIR-processed and unprocessed thermal imaging techniques across reproductive stages in ewes**
Maria Elena Pérez-García (University of Salamanca Spain), Jaime Nieto, José-Alfonso Abecia, Javier Plaza, Carlos Palacios Riocerezo

- 1:15 pm **Near-infrared spectroscopy (NIRS) for anaemia detection in sheep infected with Haemonchus contortus: does breed matter?**
Ana Carolina Chagas (Embrapa Southeastern Livestock, Brazil), Márcio Rabelo, Avelardo Ferreira, Cintia Okino, Rafaela Kapritchkoff, Emanuelle Campos, Simone Niciura, Ana Rita Nogueira

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Room 2.11 - Nexus, 2nd floor (Building 6G, UPV)
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Session 7.3 Data analyses, AI and modelling in pigs

Chaired by: Lluís Miquel Plà-Aragóns - Pedro Núñez

- 12 pm **BDporc – SmartPorc: Smart decision tools to heighten sow longevity and piglet survival in Spaniard breeding farms**
Swati Rani (IRTA, Spain), Aitor Arrazola, Mariam Pascual, Núria Alòs, Marc Visa, Miriam Piles, Raquel Quintanilla, Joaquim Tarres, Llibertat Tusell
- 12:15 pm **Evaluation of outlier detection methodologies to process pig feeding behaviour and body weight data**
Cecilia Aguilar-Vega (IRTA-CReSA, Spain), Maria Marroco, Raúl David Guevara, Beatriz Garcia-Morante, Pol Llonch, Sofia Gol, Miriam Piles
- 12:30 pm **Automated detection of health and welfare perturbations in growing pigs using longitudinal records of feeding and social behaviour traits**
Miriam Piles (IRTA, Spain), Ilias Kyriazakis, Neus Torrentó, Maria Marroco, Llibertat Tusell, Beatriz Garcia-Morante, Joaquim Tarres
- 12:45 pm **Using PLF tools to solve a classic problem for social genetic estimations in pigs**
Pedro Nuñez (Universitat Politècnica de València, Spain), Sara Negro, Joaquim Casellas, Luis Varona, Noelia Ibañez-Escriche
- 1 pm **Can feeding behavior work as a predictor of pig carcass composition?**
Raúl David Guevara (Universitat Autònoma de Barcelona, Spain), Cecilia Aguilar-Vega, Maria Marroco, Marta Díaz-Marquès, Beatriz Garcia-Morante, Pol Llonch

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Room 2.12 - Nexus, 2nd floor (Building 6G, UPV)
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Session 7.4 PLF to estimate body weight

Chaired by: Brett Ramirez - Maria Roda

- 12 pm **Evaluation of the reliability and predictive ability of the Swine Sense Hub® Camera to estimate the individual body weights of growing pigs**
Sarah Phelps (Iowa State University, United States), Nathan Vander Werff, Eric Nyberg, John Bell, Chris Puls, Matthew Ritter, John Kolb, Nadav Sharon, Tom Stein, David Rosero

12:15 pm	Integrating multi-view image encoders and genomic information via multi-kernel learning for body weight prediction in pigs Bruno Batista de Medeiros, Chamak Saha, Taofeek Abdulrahman, Rebeka Magalhaes Da Costa, Richard Leach, Yijian Huang, Mauricio Botero, <u>Anderson Antonio Carvalho Alves</u> (University of Georgia, United States)
12:30 pm	Development and validation of an automatic weighing technology and its impact on farm management in broiler chicken production <u>Xavier Soldevila</u> (bonÀrea Agrupa, Spain), Georgina Farré, Marçal Verdú Piqué
12:45 pm	Weight at first glance: Predicting turkey body weight using depth imaging and machine learning <u>Lorenzo Palazzetti</u> (Penn State, United States), Mireia Molins, Enrico Casella
1 pm	Body weight estimation of dairy calves using smart glasses and monocular depth estimation <u>Kuan-Ling Chen</u> (Penn State, United States), Lorenzo Palazzetti, Enrico Casella
1:15 pm	High-throughput body weight estimation of dairy calves using aerial drone imagery and morphometric analysis <u>Kuan-Ling Chen</u> (Penn State, United States), Giulio Calderone, Enrico Casella
1:30 pm	Lunch Garden lounge tent - Nexus (Building 6G, UPV)
2:30 pm	Auditorium - Nexus (Building 6G, UPV) Keynote - The tomorrow of PLF: Sensor-driven animal welfare assessment, economic payoffs, and the power of data spaces Chaired by: Pol Llonch Anna Stygar - Natural Resources Institute, Finland
3:30 pm	Coffee + Poster session VIP Room - Nexus, Ground floor (Building 6G, UPV)
4 pm	Innovation Roundtable: Bridging research and industry Chaired by: Carlos Piñeiro Heiner Lehr - Beak Analytics Carlos Callejero - Digitanimal David Speller - Optifarm
5 to 6 pm	Closing ceremony and Awards
7:30 to 8:30 pm	Walking tour of Valencia City Centre

Posters

Development of circadian locomotor activity rhythms in Rasa Aragonesa replacement ewe-lambs during the first six months of life

José-Alfonso Abecia (University of Zaragoza Spain), Francisco Canto

Wavelet transform-based prediction of indoor temperature in livestock barns

Roberto Besteiro Doval, Samira Hernández Faria de Moraes (University of Santiago de Compostela, Spain), Manuel Ramiro Rodríguez, M^a Dolores Fernández Rodríguez

Applying infrared thermography to monitor welfare and exercise-related thermal responses in Mounted Games ponies

Clara Bordin (University of Turin, Italy), Matteo Dal Cin, Edoardo Fiorilla, Laura Ozella

Insights on back marking for the automated identification of animals

David Brunner (University of Applied Sciences Upper Austria, Austria), Marie Bordes, Elisabeth Mayrhuber, Stephan Winkler, Viktoria Dorfer, Maciej Oczak

Effect of weaning on the circadian organization of locomotor activity in ewe-lambs: evidence from cosinor analysis

Francisco Canto, Jaime Reyes, José-Alfonso Abecia (University of Zaragoza Spain)

Evaluation of locomotor activity and its circadian rhythms in llamas (*Lama glama*) after transition from grazing to stabling

Francisco Canto, Marcelo Ratto, Rodrigo Morales, José-Alfonso Abecia (University of Zaragoza Spain)

Sensor-PP: Integrating environmental sensors and AI based behaviour analysis in pig and poultry houses

Pieter-Jan De Temmerman (ILVO, Belgium), Jarissa Maselyne, Joana Ceia, Sjouke Van Poucke

Smart protection for livestock. Wireless sensors for possible detection and protection from wolf attacks on sheep

Alessia Di Rosso, Carlo Bibbiani (University of Pisa, Italy), Huw Evans, Sandra Evans, George Clouston, Lucia Casini, Francesca Coppola, Chiara Benedetta Boni, Claudia Russo, Giuseppe Vecchio, Daniele Scarselli, Antonio Felicioli

Serial hybridization model for identifying nutritional adequacy in dairy goat farms

Carlos Fernández (Universitat Politècnica de València, Spain), Carlos Vicente,

Tamara Romero, Pablo Guarnido-López

Identification of dairy cows using computer vision and RFID technologies
Claudia Giannone (University of Bologna, Italy), Carlos Alejandro Perez-Garcia, Martina Lamanna, Damiano Cavallini, Marco Bovo, Andrea Formigoni, Daniele Torreggiani, Patrizia Tassinari

Measuring the locomotor activity of lambs in feedlots with triaxial accelerometers as a tool in the evaluation of animal welfare

José María González, Francisco Canto, José-Alfonso Abecia (University of Zaragoza Spain)

Centralised long-term audio–video data acquisition in turkey farming: Design and field validation of a modular recording system

Leon Grude (Hochschule Hannover, Germany), Jessica Raabe, Gurubaran Raveendran, Thomas Bartels, Helen Schomburg, Kai Homeyer, Martin Streitenberger

Assessment of broiler welfare: Using video-tracking and AI-based movement analysis in commercial farms

Noslen Hernandez Gonzalez (INRAE, Spain), Sylvain L'Hermite, Pauline Créach, Didier Concordet

Use of a camera-based computer-vision pipeline to monitor pig behaviour under heat stress conditions.

Nawel Hlel (Universitat Politècnica de València, Spain), Daniel Alexander Mendez Reyes, Xabier Díaz de Otálora, Fernando Estellés Barber, Salvador Calvet Sanz, Dong Liu, Tomas Norton

Assessment of freely available Google Gemini models for equine pain face classification from photos

Dan Jensen, Sofie Hougård Knudsen, Karina Gleerup, Casper Lindegaard, Marta Gyldenkerne (University of Copenhagen, Denmark)

Seasonal forage dynamics in grazed temporary pastures of an integrated crop–livestock system assessed using drone-based NDVI

Sami Joseph Kambiré (University of Liege, Belgium), Jérôme Bindelle, Alabi Taofic, Caroline De Clerck, Jean-François Bastin, Arthur Bughin, Gaelle Dossogne

Validation of the relationship between feeding behaviour traits and productivity in Korean native pigs using an automated feeding system

Byeonghyeon Kim (National Institute of Animal Science, Korea, Republic of), Dong-Hwa Jang, Jaeeun Kim, Young Sin Kim, Soo Hyun Back, Yohan Choi, Jong-Bok Kim

On-site assessment of ammonia emission variations induced by litter application in broiler houses

Jaeeun Kim (National Institute of Animal Science, Korea, Republic of),

Kyeong-Seok Kwon, Jong-Bok Kim, Byeonghyeon Kim, Dong-Hwa Jang

How do Large Language Models fail in behaviour extraction?

Martina Lamanna (University of Bologna, Italy), Edlira Muca, Marco Bovo, Claudia Giannone, Andrea Formigoni, Damiano Cavallini

Use of herd management software in Italian farms: Qualitative study protocol and preliminary emerging insights

Martina Lamanna (University of Bologna, Italy), Alessandro Tuzi, Marco Bovo, Francesco Petretto, Gabriele Murabito, Andrea Formigoni, Damiano Cavallini

Cervical morphometry in Holstein dairy cows: A pilot study for wearable sensor design in Precision Livestock Farming

Martina Lamanna (University of Bologna, Italy), Riccardo Colletuori, Marco Bovo, Francesco Petretto, Andrea Formigoni, Damiano Cavallini

Sow nursing behavior monitoring method in variable illumination farm environments

Yixue Liu (Chongqing Academy of Animal Sciences, China), Yaqiong Zeng, Bin Hu, Hao Wang, Renli Qi

Helping farmers understand the role of Precision Livestock Farming

Daniela Lovarelli, Rosa Martecchini, Federica Borgonovo, Marcella Guarino (Università degli studi di Milano, Italy)

Smart-monitoring of reproductive and welfare-health aspects in grazing dairy cattle: Is it a useful tool for farmers?

Nerea Mandaluniz (NEIKER, Spain), Elio Lopez, Lurdes Mintegi, Roberto Ruiz

From sensors to decisions: An interoperable plf platform supporting real-time monitoring and early warnings in sheep farming

Francesco Martini (Abinsula Srl, Italy), Antonio Solinas, Marco Acciaro, Maria Katiuscia Zedda, Mauro Decandia, Maria Gabriella Serra, Andrea Frongia, Valeria Giovanetti

Exploring the potential of phospholipid LysoPE (0:0/20:4) as a metabolic indicator of nutrient-use efficiency in reproductive females for PLF applications

Jorge Mateo López (Universidad Cardenal Herrera CEU, Spain), Mette Skou Hedemann, César Cortés García, Lola Llobat, Diego Páez-Rosas, María Cambra-López, Juan José Pascual, Pablo Jesús Marín García

Analysis of estrus behavior as a concept for automated estrus detection

Juliana Müller, Holm Zerbe, Michael Iwersen (Ludwig-Maximilians-University, Germany)

Monitoring body temperature variation in slow-growing chickens using injectable transponders: the effects of age and housing

Jaime Nieto (University of Salamanca, Spain), María Elena Pérez-García, Javier Plaza, José-Alfonso Abecia, Carlos Palacios Riocerezo

Non-invasive digital measures for quantifying coccidiosis infection severity in poultry

Oluwadamilola Oso, Hosna Mohammadilabadi, Guoming Li, Alberta Fuller, Samuel Aggrey (University of Georgia, United States)

Interaction of feedlot calves with mineral blocks used as environmental enrichment, measured through proximity sensors

Carlos Palacios Riocerezo (University of Salamanca, Spain), Jaime Nieto, Javier Plaza, José-Alfonso Abecia

Infrared thermography for evaluating teat tissue response and animal stress during mechanical milking in Sarda sheep

Daniele Pinna, Gabriele Sara, Antonello Ledda, Sofia Pintus, Giuseppe Todde, Maria Caria (University of Sassari, Italy)

Automated monitoring in poultry farming based on visionlanguage models without manual annotations

Gurubaran Raveendran (Hochschule Hannover, Germany), Frank Stollmeier, Andrej Lasarew, Jessica Raabe, Leon Grude, Thomas Bartels, Helen Schomburg, Hanno Homann, Martin Streitenberger, Kai Homeyer

Validation of an automated system for recording daily body weight in beef cattle

Maria Roda (Universitat Autònoma de Barcelona, Spain), Marçal Verdú Piqué, Adriana Siurana Marina, Xavier Soldevila, Lorena Castillejos

Development and validation of an electronic feeder for monitoring feeding behaviour and intake in beef cattle

Maria Roda (Universitat Autònoma de Barcelona, Spain), Marçal Verdú Piqué, Adriana Siurana Marina, Xavier Soldevila, Marc Mases, Lorena Castillejos

Measuring particle size of total mixed rations using image analysis

Isabela Santos (Purdue University, United States), Amy Reibman, Jacquelyn Boerman

Rhythmic synchronization of locomotion and feeding activities in dairy cows during early lactation

Marie Schneider (Johann Heinrich von Thünen Institut, Germany), Stijn Heirbaut, Patricia Fuchs, Katleen Geernickx, Leen Vandaele, Christina Umstätter

Validation of indoor positioning system for small ruminants' data visualization in augmented reality

Gabriele Sara, Daniele Pinna, Giuseppe Todde, [Maria Caria](#) (University of Sassari, Italy)

Multi-step individual milk yield forecasting with temporal fusion transformers using weather forecasts

Hang Shu, [Yaowu Wang](#) (Institute of Advanced Displays and Imaging, Henan Academy of Sciences, China)

How technology can address dairy sector challenges

[Adriana Siurana Marina](#) (Universitat Autònoma de Barcelona, Spain), Lorena Castillejos, Cecilia Cajarville Sanz, José Luis Repetto

An example of using precision livestock farming technology to seek relations between water intake and influence factors in Angus beef cattle fed high-concentrate diets

[Xavier Soldevila](#) (bonÀrea Agrupa, Spain), Marçal Verdú Piqué, Jordi Cucurull

A species-aware framework for physiological digital twins of living animals: Design, adaptability, and validation on an equine colic dataset

[Ali Youssef](#) (University of Manitoba, Canada), Nasem Badreldin, Daniel Berckmans

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SEP

Aula Espai Natura - ETSEAMN (Building 3G, UPV)

SYNFEED Workshop "Smart proteins: Transforming precision animal nutrition"

Chaired by: Juan José Pascual and Wouter Hendriks

- 8:30 am Registration
The global protein supply: a challenge to be met
Juan José Pascual – Universitat Politècnica de València, Spain
- 9 am SYNFEED Pathfinder Project: "Synthetic proteins for sustainable animal feeding"
- 9:30 am Juan José Pascual – Universitat Politècnica de València, Spain
Wouter Hendricks – Wageningen University, The Netherlands
Victor Guallar – Barcelona Supercomputing Centre, Spain
Borja Valverde – Technical University of Denmark, Denmark
- Discussion & closing of technical session
- 10:30 am Coffee break
- 11 am Advancing precision animal nutrition with smart proteins: Expert Roundtable
Moderator: Wouter Hendricks - Wageningen University
Aline Remus – Agriculture and Agri-Food Canada
Ana Isabel Garcia – Trouw Nutrition
Carlos Dapoza – Evonik
Pablo Catalá – CECAV
- 1 pm Networking Lunch

Oceanogràfic Valencia

- 10 am to 1 pm **Technical tour: Technology-driven animal welfare monitoring and conservation research**

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