



# Neurological lesions in cervids: a study in Portugal



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Mendonça P<sup>6</sup>, Carvalho P<sup>6</sup>, Orge, L<sup>1,6</sup>

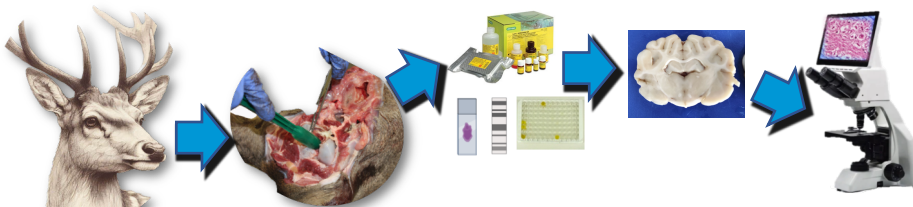
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## Introduction

Brain samples were collected within the project "CWD Risk in Portugal", profiting the infectious diseases epidemiological surveillance and screening of chronic wasting disease (CWD) during cervids hunts. The literature on wild animals' neuropathological lesions is scarce.

This work aims to describe the neuropathological findings in samples collected in deer hunted in Portugal.

## Materials and Methods



For 4 years, 233 brainstem and cerebellum samples were collected from hunted deer (*Cervus elaphus* - 97) and fallow deer (*Dama dama* - 136). These samples were tested, resulting negative for CWD, and were subsequently processed for routine histopathological analysis.

## Results

Most cases did not show any changes, and in 10% of cases, the diagnosis was impaired by autolysis. A case of choroid plexus papilloma was observed (Fig.1). There was a case of lymphoplasmacytic meningitis with rare eosinophils and histiocytes associated with the presence of nematodes in the meninges (Fig.2). In 20% of the cases, findings of uncertain or no significance were detected: polyglucosan bodies (Fig. 3), mineralization of the vascular endothelium (Fig 3 and 4), intracytoplasmic hyaline inclusions in neurons (Fig.5), intraneuronal lipofuscin deposits (Fig. 6), melanosis in the meninges (Fig.8) and reactive glia in white matter (Fig.9). In 8% of cases, inflammatory changes were observed in the CNS, characterized by a discreet perivascular lymphoplasmacytic infiltrate (Fig.10).

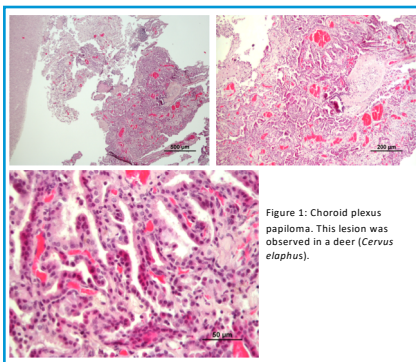


Figure 1: Choroid plexus papilloma. This lesion was observed in a deer (*Cervus elaphus*).

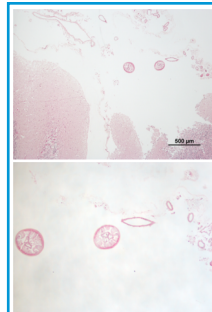


Figure 2: A nematode was present in cerebellum meninges of a deer (*Cervus elaphus*). This animal also presented a lymphoplasmacytic meningitis with rare eosinophils and histiocytes

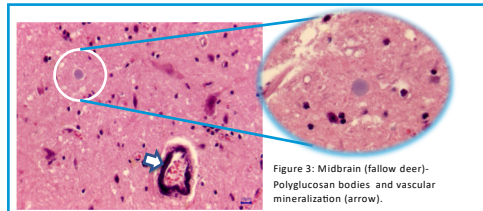


Figure 3: Midbrain (fallow deer)- Polyglucosan bodies and vascular mineralization (arrow).

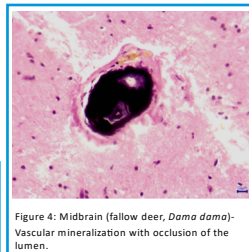


Figure 4: Midbrain (fallow deer, *Dama dama*)-Vascular mineralization with occlusion of the lumen.

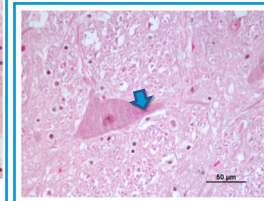


Figure 5: Neuronal hyaline inclusions were a common feature, without pathological significance

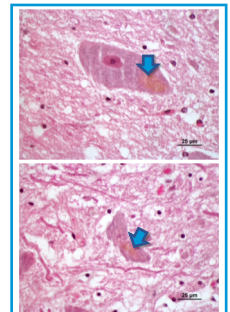


Figure 6: Neuronal lipofuscin deposits were found in 4 animals, most fallow deer

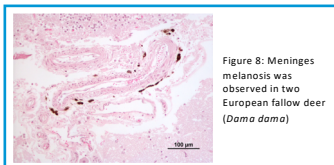


Figure 8: Meninges melanosis was observed in two European fallow deer (*Dama dama*)

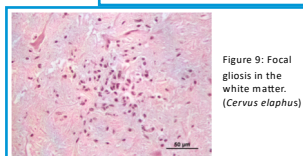


Figure 9: Focal gliosis in the white matter. (*Cervus elaphus*)

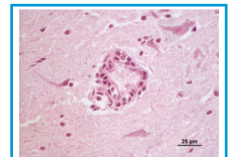


Figure 10: Perivascular lymphoplasmacytic infiltrate was present in 5 animals (4 fallow deer and one deer).

## Conclusions

This exploratory study represented the first survey of neuropathological changes in wild cervids in Portugal, revealing mainly discrete non-specific inflammatory lesions, clinically insignificant changes, in addition to one neoplastic lesion. This approach should be expanded as an important tool to identify putative neuropathological zoonotic pathogens in the cervid population for early warning systems in the health surveillance of wildlife and humans as they are intended for consumption.

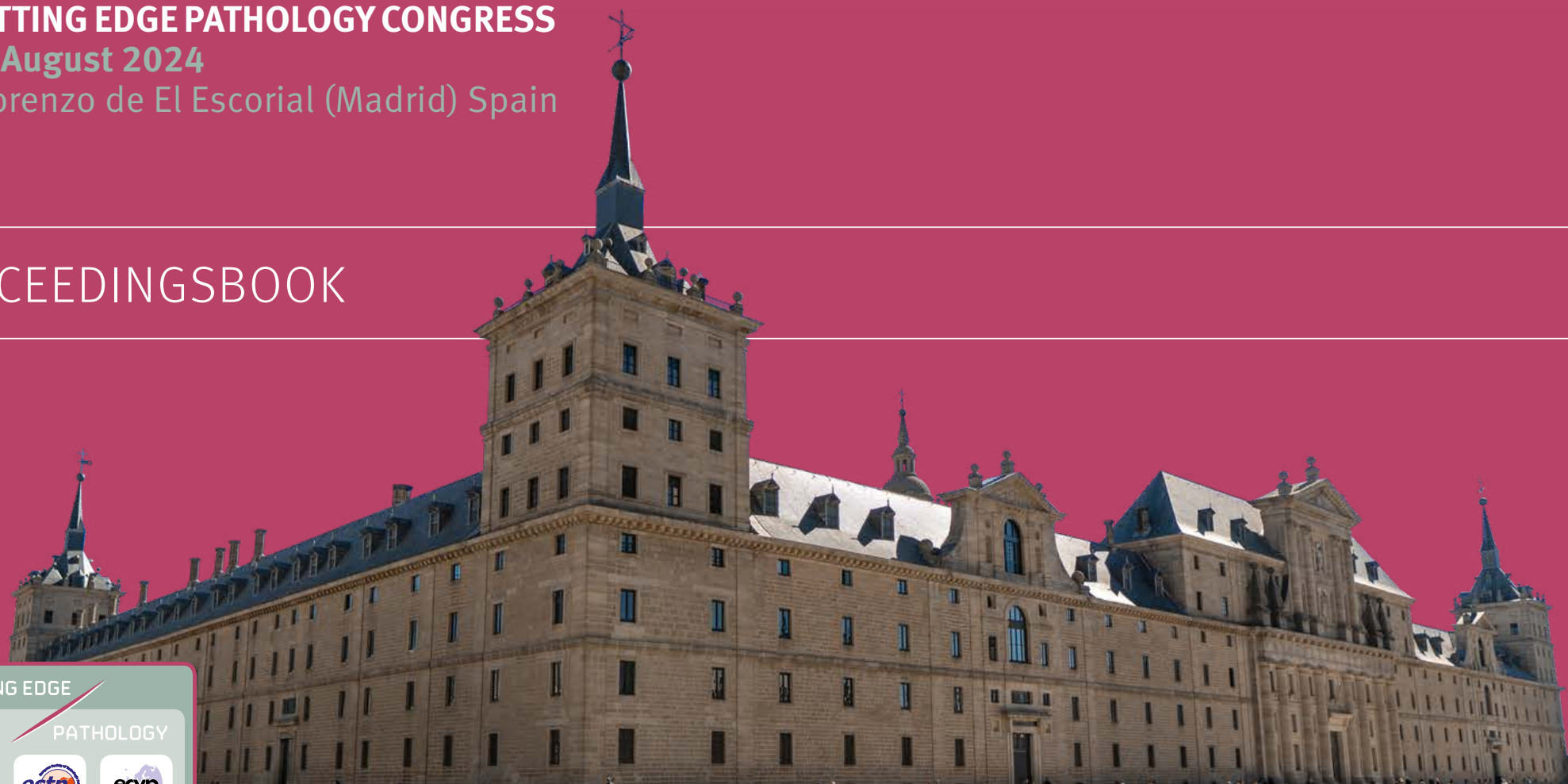
## Acknowledgments

This work was financed by FCT-Portuguese Foundation for Science and Technology, within the scope of the project "Chronic Wasting Disease Risk Assessment in Portugal", 029947, call 02/SAICT/2017, from POCI-01-0145-FEDER-029947. The researchers are also in the UIDB/CVT/00772/2020 (CECAV) and LA/P/0059/2020 (AL4Animals) projects.



**5<sup>TH</sup> CUTTING EDGE PATHOLOGY CONGRESS**  
**28-31 August 2024**  
San Lorenzo de El Escorial (Madrid) Spain

# PROCEEDINGSBOOK



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# WELCOME TO SAN LORENZO DE EL ESCORIAL

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About four years ago, we considered the possibility of having this wonderful congress in Madrid. It seemed very far away. The Local Organizing Committee (LOC) began to look for locations and finally, we found this magnificent and emblematic site in San Lorenzo de El Escorial.

For the preparation of this congress, there have been several years of work filled with enthusiasm and, it must be said, concerns and moments of discouragement. In this task, we have always tried to offer you the best in order to provide you with a cutting-edge congress that is as pleasant as possible in its organizational aspects and at the same time scientifically interesting (thanks Scientific Committees!).

It has been a great satisfaction to see the high number of registered congress participants and we hope not to disappoint you in the slightest detail.

We do not want to miss mentioning that this congress will also be special for us within the field of Veterinary Pathology in Spain, as we expect to have numerous members of the Spanish Society of Veterinary Anatomical Pathology (SEAP) who will celebrate their thirty-fifth annual meeting here in Madrid... and we are very demanding with our national SEAP congresses since the bar is set very high!

With certain nervousness while waiting for everything to go well, now we just need to enjoy Science, Veterinary Pathology, and friends!

We hope to see you soon!



**Laura Peña**  
*Chair of the LOC*



**Juana M Flores**  
*Co-Chair of the LOC*

## THE EUROPEAN SOCIETY OF VETERINARY PATHOLOGY

**Dear ESVP and ESTP Members, dear ECVP Diplomates, dear Colleagues, dear Friends,**

On behalf of the Board of the European Society of Veterinary Pathology, this is my great pleasure to welcome you to the 5<sup>th</sup> Cutting Edge Pathology (CEP) Congress, in the wonderful city of San Lorenzo del Escorial, Spain.

The European Society and College will indeed co-organize this year our annual Congress with our friendly and sister partner, the European Society of Toxicological Pathology (ESTP) at the Real Centro Universitario María Cristina in front of the impressive building of the Real Monasterio of San Lorenzo del Escorial. As every 3 years, this Cutting Edge congress is special as the conference will be a joint venture between the European Society of Veterinary Pathology, the European Society of Toxicologic Pathology, and the European College of Veterinary Pathologists with an extensive program covering veterinary pathology as well as toxicologic pathology. The meeting will enable both disciplines of pathology to learn from each other's work and we hope it provides opportunities for new collaborative ventures between veterinary and toxicologic pathologists. It will be in addition a wonderful opportunity to strengthen the natural link between our communities. After the great success of the Lisbon meeting last year, we had another proof, if needed, how such events are crucial in terms of sociability and human interactions among our community. The increased number of young colleagues, residents and PhD Students attending our Meetings, are also a promising feature and a strong encouraging signal. Working for them is our honour. This 5<sup>th</sup> CEP in 2024 will be a wonderful opportunity to strengthen the natural link between our communities, of young residents and experienced pathologists, either working in diagnostic pathology, in academies, or in toxicological Pathology. The Local Organizing Committee team, head by Laura Peña, with the help of our PCO (special thank to Miral Kostons), has remarkably organized this event. And the program that has been built by both Scientific Committees of the ESVP-ECVP and of the ESTP will undoubtedly cover our expectations.

I am endly sure that you will all enjoy the beautiful city of San Lorenzo del Escorial and the spanish hospitality and way of life. Looking forward to see you all soon.

Sincerely and kindly. Best regards,



**Jérôme Abadie**  
President ESVP



## THE EUROPEAN COLLEGE OF VETERINARY PATHOLOGY

Welcome everyone! Welcome to our 5<sup>th</sup> cutting edge pathology congress. This meeting, jointly organized by the European College of Veterinary Pathologists, the European Society of Veterinary Pathology and the European Society of Toxicologic Pathology, is an incredibly rich and exciting event. Our organizing teams and partners have been working hard on preparing this congress which now becomes reality. Thank you all for your relentless commitment.

First, our scientific program has been designed with utmost care to feed our professional curiosities. Whether you are specialized in research, diagnostic or toxicologic pathology, our joint congress is a unique forum to exchange about our different yet complementary practical experiences. Neuropathology, oncology, infectious and degenerative disease in the broadest range of animal species on planet Earth will trigger passionate discussions. Diverse points of view will constructively feed into our common enthusiasm for understanding and analyzing mechanisms of diseases. Innovative ideas will emerge, which each of us can take back home and transform into concrete changes in our daily works. You will also meet hundreds of talented peer pathologists. To facilitate networking, our organizers have designed a fantastic social program. Make most of this privileged moment together. Entertain across generations, across countries, across cultures. The diversity of our community is its strongest value.

Lastly, let me mention the royal site of El Escorial which is a truly unique meeting location in Europe. Close to Madrid, founded in the XVIIth century by King Philippe II, it gathers a monastery, a museum, a college, a library and a palace making it a highly inspirational venue. Numerous sight-seeing opportunities should not be missed and we will all appreciate its features, echoing from the past, whilst looking ahead at our future.

Enjoy our congress, enjoy being together.

Yours sincerely,



**Alexandre Bidaut**  
President of the European College of Veterinary Pathologists



## THE EUROPEAN SOCIETY OF TOXICOLOGIC PATHOLOGY

A very warm welcome to the 5<sup>th</sup> Cutting Edge Pathology congress, set against the historic and picturesque backdrop of San Lorenzo de El Escorial! I am delighted to have you with us for this important event dedicated to advancing the field of pathology, made possible by the collaboration of ESTP, ESVP and ECVP.

In the coming days, we will participate in engaging discussions, share groundbreaking research, and build collaborations that will shape the future of our field. This congress unites experts, researchers, and practitioners from across the globe and various pathology specialties, each bringing unique perspectives and innovations. This year, ESTP has chosen neuropathology as our scientific focus, a field that is also vital for diagnostic pathology. With advancements ranging from Alzheimer's treatment to the direct application of gene therapy and the implantation of microchips in the central nervous system, therapies for neurological diseases are making significant strides. Interdisciplinary thinking and awareness are essential to address the challenges these advancements present.

San Lorenzo de El Escorial, nestled in the serene Sierra de Guadarrama and steeped in cultural heritage, offers an ideal setting for our congress. I urge you to take the time to explore its historic landmarks and appreciate the natural beauty around us. We can anticipate a delightful evening at Finca Miravalle, where we will experience warm Spanish hospitality. At this point, I would like to extend a big Thank You! To our scientific organizing committee, led by Pierre Maliver and Sameh Youssef, for putting together a series of exciting, truly cutting-edge talks; a heartfelt thanks to Laura Peña and the local organizing committee; and special thanks to all our generous sponsors, who supported us in putting this exceptional congress together.

With my very best wishes for an enjoyable and insightful congress!



**Silvia Gutonaud**  
President, European Society of Toxicologic Pathology

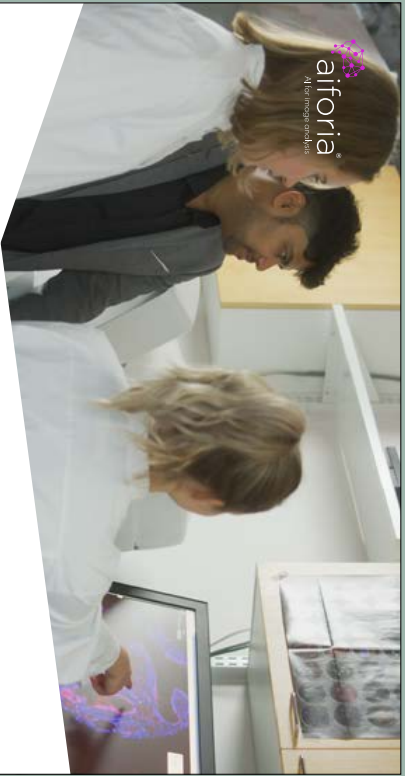




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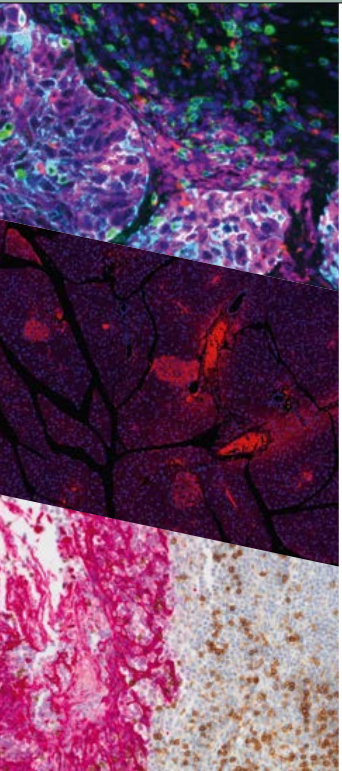
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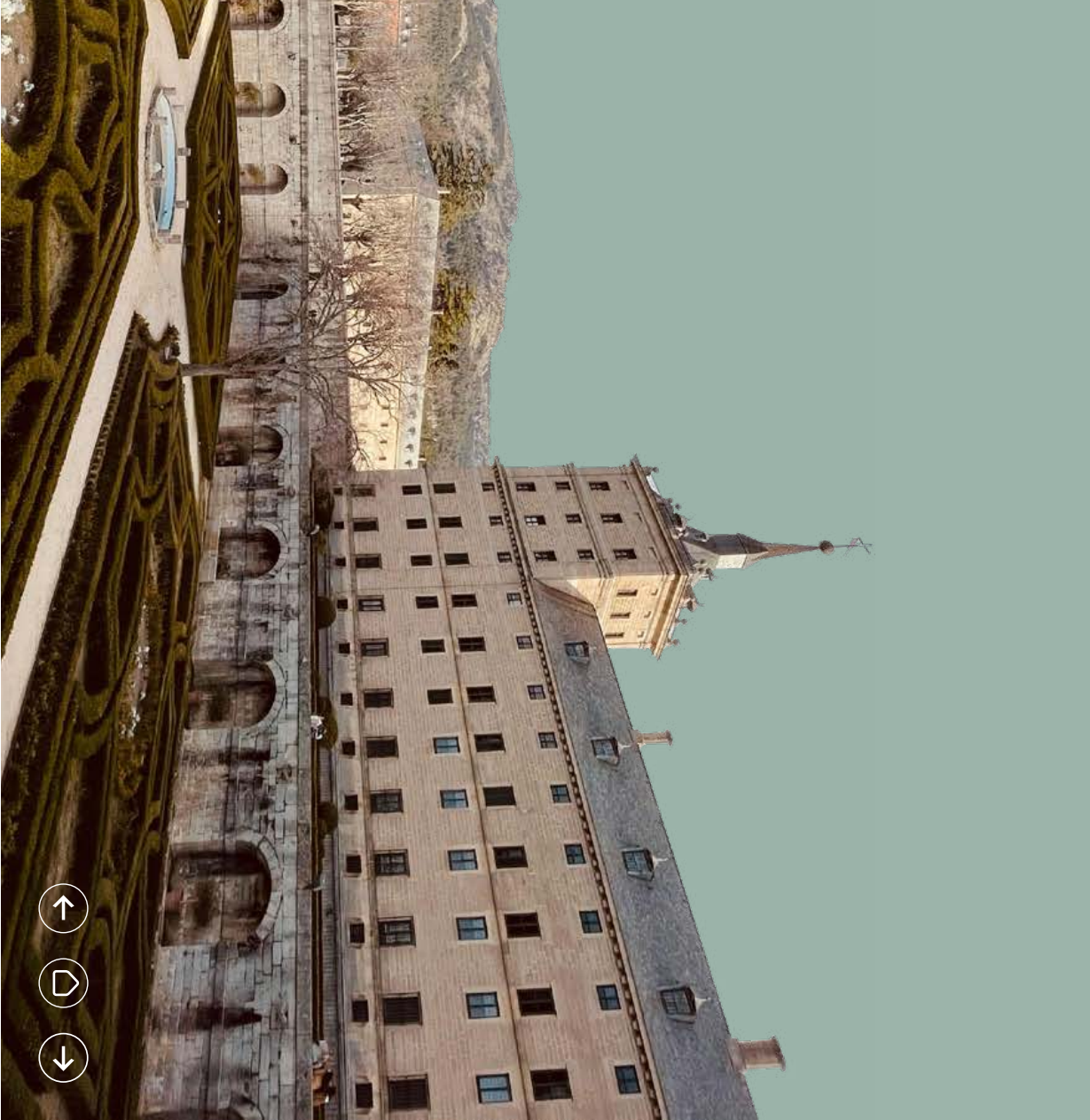
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- Veterinary Pathology: Horses
- Veterinary Pathology: Exotic, wildlife & zoo animals
- Veterinary Pathology: Laboratory animals
- Veterinary Pathology: Others

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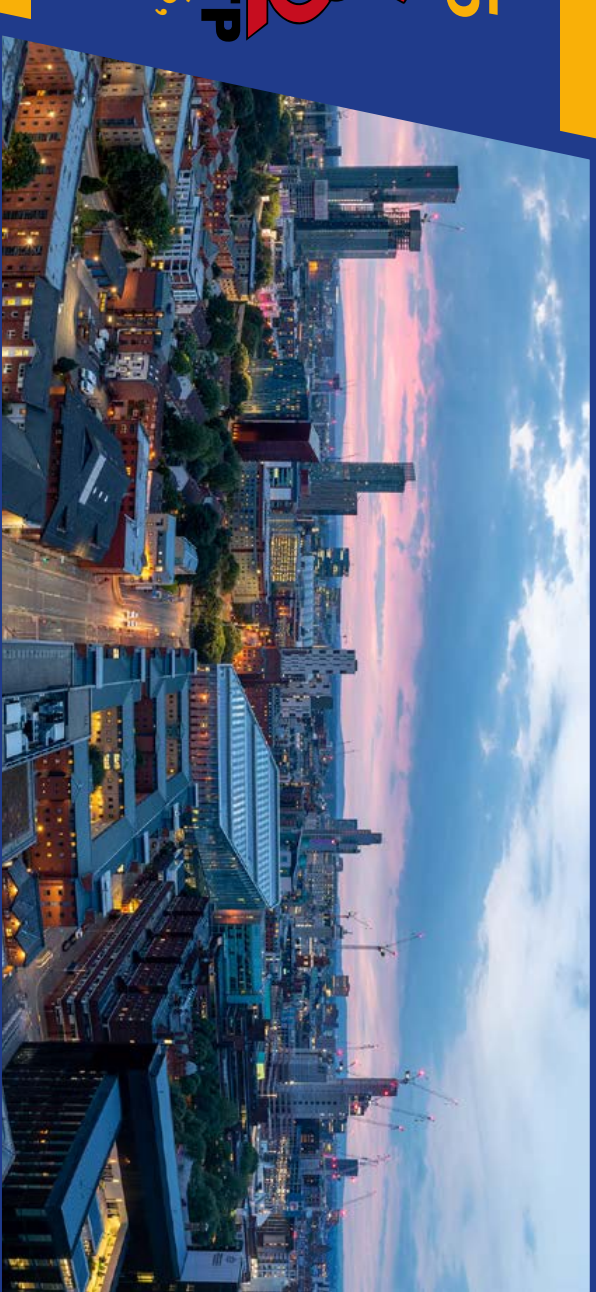
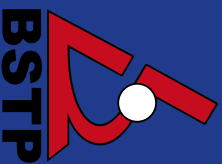


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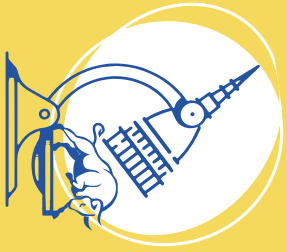
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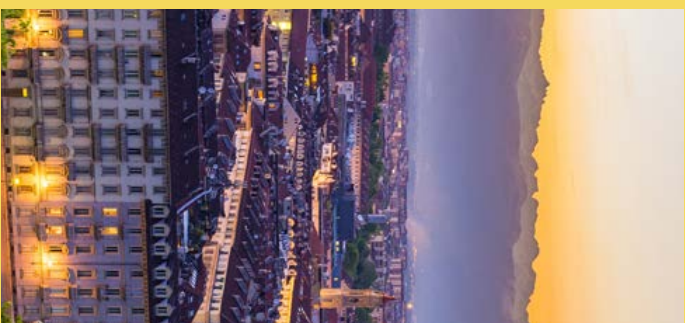
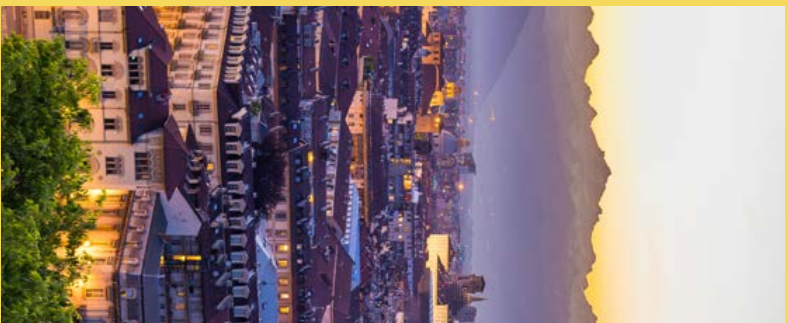


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## LOCAL ORGANIZING COMMITTEE, SCIENTIFIC ORGANIZING COMMITTEE AND CONGRESS ORGANIZERS

### Local Organizing Committee

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**Partners in Congress Organisation**  
Avenue Ceramique 222, 6221 KX Maastricht,  
The Netherlands  
Contact person: Mrs. Mirel Kostons  
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## USEFUL INFORMATION

The CEP Congress will be organized at:

**Real Colegio Universitario María Cristina**

Paseo de los Alamillos 2, 28200 San Lorenzo de El Escorial (Madrid)



### Real Colegio Universitario María Cristina

Nowadays, the venue is an upper educational center associated with the Complutense University of Madrid.

It is a unique university campus, with an outstanding atmosphere and architecture. Going back to its origin, the construction work was undertaken between 1590 and 1597, with the aim of housing in a single building all the warehousing, services and animals of the Hieronymite Community, the religious order entrusted with the care and maintenance of the Monastery.

### Registration Desk

The registration area in the conference centre will be open for registration and questions on:

**Wednesday 28 August:** 08.00-19.00

**Thursday 29 August:** 07.30-18.00

**Friday 30 August:** 07.30-18.00

**Saturday 31 August:** 08.30-13.00

*Please note that the official currency at the congress is the Euro.*

*At the registration desk cash, cheques and foreign currency are not accepted.*

The registration fee includes

- Admission to all scientific sessions
- Lunch Wednesday, Thursday and Friday
- Final programme
- Congress Dinner
- Admission to the exhibition area
- Daily coffee breaks
- Welcome reception

### WiFi

You will have free WiFi access on-site in the congress venue

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### Congress badges

All participants, speakers and exhibitors must wear the identification badges.

Entrance to meeting halls and exhibition area will not be permitted to any person without badge.

### Certificate of attendance

A certificate of attendance can be downloaded after submission of the online evaluation which will be requested to be filled in after the congress. You will receive an invitation via email after the congress.

### Interactive Slides

Some speakers will incorporate interactive slides into their presentation. A smart phone is required to participate in the voting.

### Poster Presentations

Posters will be exhibited on Thursday and Friday in the hallways around the courtyard. Authors are kindly requested to be at their posters during the breaks to answer potential questions.

### Anything lost?

Please go to the registration desk.

### Language

The official language of the congress is English.

### Mobile phones

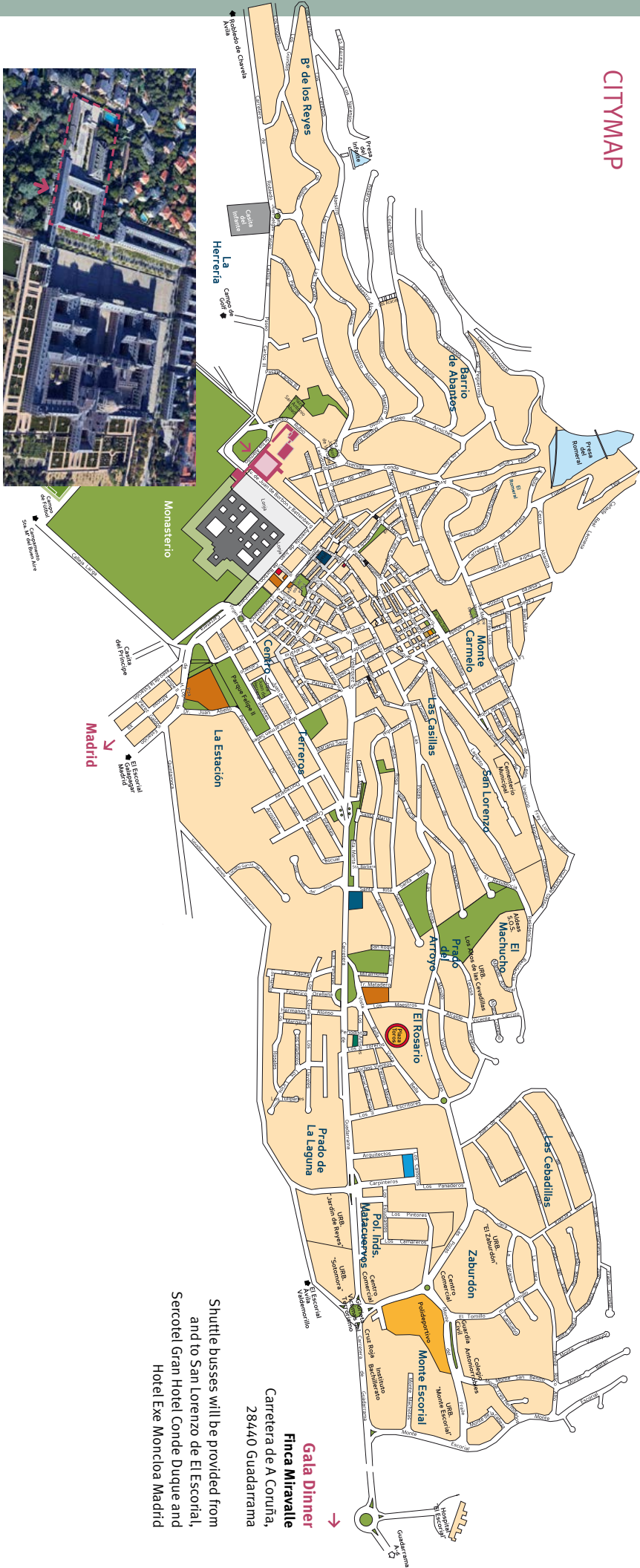
Please silence your mobile phones during the lectures.

### Photography, Videotaping, Recording Policies

Photography of poster presentations is prohibited without the specific consent of the presenter(s)/author(s). Photography of exhibitor booths and/or equipment is prohibited without the specific consent of the exhibitor. Photography, videotaping, or recording of the Scientific Sessions is not permitted.



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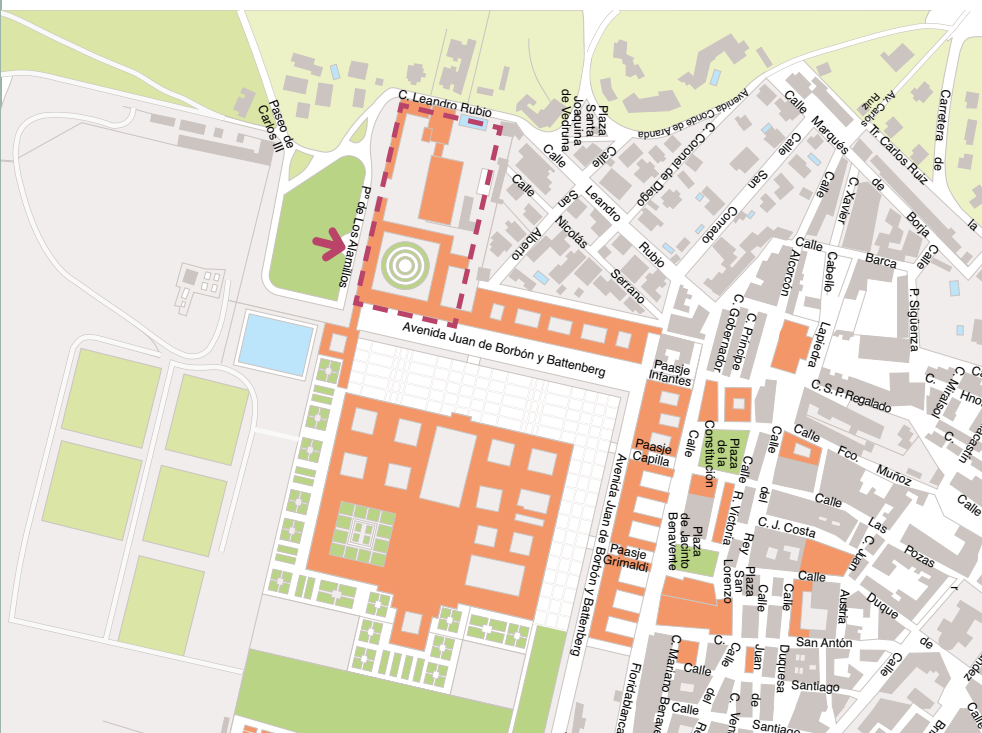
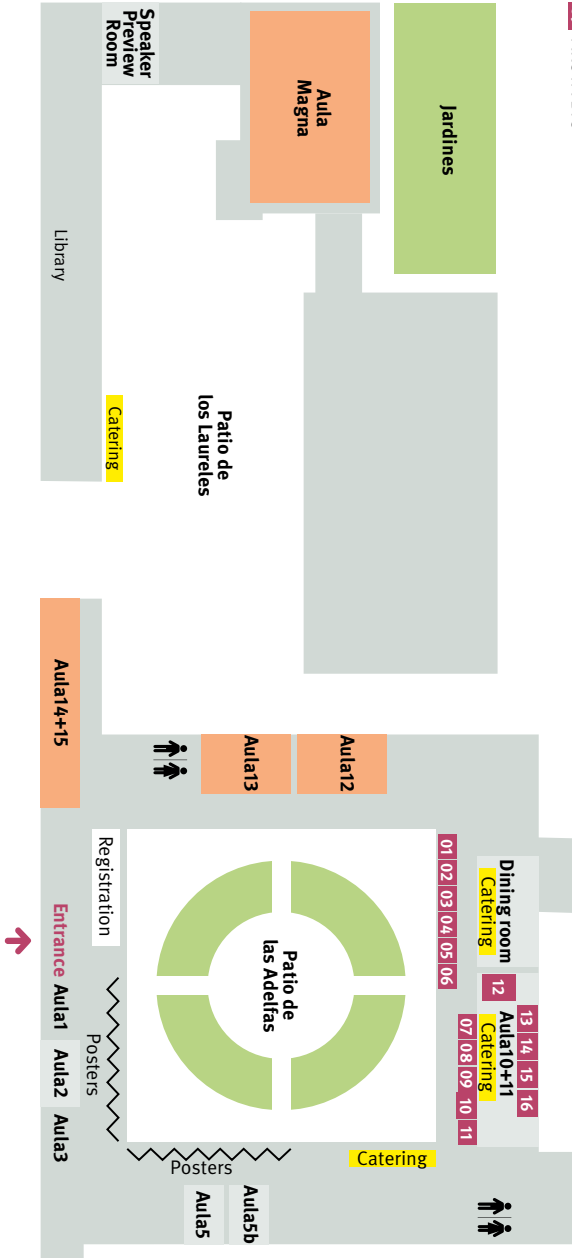
Shuttle buses will be provided from  
and to San Lorenzo de El Escorial,  
Sercotel Gran Hotel Conde Duque and  
Hotel Exe Moncloa Madrid

**Gala Dinner**  
**Finca Miravalle**  
Carretera de A Coruña,  
28440 Guadarrama



## EXHIBITION FLOORPLAN

- 01 STANDARD BIO
- 02 PROSCIA
- 03 IDEXX
- 04 RESERO ANALYTICS
- 05 DECIPHER
- 06 SMART IN MEDIA
- 07 AIRAMATRIX
- 08 SLIDE SCORE
- 09 AKOYA BIO
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# PROGRAMME | WEDNESDAY 28<sup>TH</sup> AUGUST 2024

## AULA MAGNA | ESTP Session

## AULA 14+15 | Resident Day

## AULA 13 | IATP Symposium

	<p><b>08:30-10:30</b> Analysis of single cells to boost your research in pathology-Part I <i>Sven Rottenberg</i>  <b>OMICS</b></p> <p><b>10:30-11:00</b> COFFEE BREAK</p> <p><b>11:00-13:00</b> Analysis of single cells to boost your research in pathology-Part II <i>Philipp Olias</i>  <b>OMICS</b></p> <p><b>13:00-14:00</b> LUNCH &amp; REGISTRATION</p> <p><b>14:00-16:00</b> Pictures of Publication Quality: the perspective of the Photo Editors at the Veterinary Pathology Journal <i>Silvia Ferro &amp; Hanna Bender</i>  <b>PRACTICAL SKILLS</b></p>	<p><b>09:00-09:10</b> Welcome and introduction <i>IATP Education Committee</i></p> <p><b>09:10-09:55</b> Scientific Efforts for Gaining Regulatory Confidence in NAMs for Neurotoxicity <i>Dr. Ellen Frische</i></p> <p><b>09:55-10:40</b> Current State of Developmental Neurotoxicity (DNT) Assessment Using New Approach Methodologies (NAMs) <i>Dr. Helena Hogberg-Durdock</i></p> <p><b>10:40-11:10</b> COFFEE BREAK</p> <p><b>11:10-11:50</b> Larval zebrafish as an Alternative in vivo Model for Assessing Seizure Liability: from Behaviour through to Functional Brain Imaging. <i>Dr. Matthew Winter</i></p> <p><b>11:50-12:30</b> Assessment of Chronic Neurotoxicity using NAMs <i>Dr. Andrea Terron</i></p> <p><b>12:30-12:55</b> Panel Discussion</p> <p><b>12:55-13:00</b> Closing Remarks <i>IATP Education Committee</i></p>
<p><b>Welcome ESTP Chair</b> <i>Silvia Guiraud</i></p> <p><b>14:15-14:55</b> Sampling the Nervous System For Histopathology Evaluation: Getting Aligned to Detect Neurotoxicity <i>Deepa Bandi Rao</i>  <b>NEUROMETHODS</b> <i>Moderators: Ingrid Pardo &amp; Alok Sharma</i></p> <p><b>14:55-15:20</b> Brain and spinal cord sampling for molecular and protein analyses <i>Xavier Palazzi</i>  <b>NEUROMETHODS</b> <i>Moderators: Ingrid Pardo &amp; Alok Sharma</i></p> <p><b>15:20-15:45</b> Direct Drug Delivery Into Brain Parenchyma in Monkeys: Technical Aspects and Pathology Findings <i>Alexandra Duetting &amp; Annette Romeke</i>  <b>NEUROMETHODS</b> <i>Moderators: Ingrid Pardo &amp; Alok Sharma</i></p> <p><b>15:45-15:55</b> Silver staining in neuropathology and neurotoxicity: practical approaches, advantages, and disadvantages <i>Kristel Kogler</i>  <b>NEUROMETHODS</b> <i>Moderators: Ingrid Pardo &amp; Alok Sharma</i></p> <p><b>15:55-16:05</b> Immunohistochemical Characterization of glial cells Around Holes in the Brain: Two Similar Experiences in the Dog <i>Stefanie Amis &amp; Enrico Vezzali</i>  <b>NEUROMETHODS</b> <i>Moderators: Ingrid Pardo &amp; Alok Sharma</i></p> <p><b>16:05-16:15</b> Myelin methods <i>Brad Bolon</i>  <b>NEUROMETHODS</b> <i>Moderators: Ingrid Pardo &amp; Alok Sharma</i></p>	<p><b>16:15-16:45</b> COFFEE BREAK</p> <p><b>16:00-16:30</b> COFFEE BREAK</p>	
<p><b>17:00-17:25</b> Finding One's Way in the Nervous System Maze with an AI Compass <i>Erio Barale-Thomas</i>  <b>NEUROMETHODS</b> <i>Moderators: Ingrid Pardo &amp; Alok Sharma</i></p> <p><b>17:25-18:00</b> Audience Participation  <i>Moderators: Ingrid Pardo &amp; Alok Sharma</i>  <b>NEUROMETHODS</b></p>	<p><b>16:30-18:30</b> Dealing with residents' challenges <i>Chiara Palmieri &amp; Pompei Bolla</i>  <b>PRACTICAL SKILLS</b></p>	
<p><b>19:00-21:30</b> CONGRESS OPENING &amp; WELCOME RECEPTION  <i>Jardines</i></p>		

- IATP Sessions
- ESVP/ECVP Sessions
- Resident Day Sessions
- Joint Plenary Sessions
- ESTP Sessions



# PROGRAMME | THURSDAY 29<sup>TH</sup> AUGUST 2024

AULA MAGNA

AULA 14+15

AULA 13

AULA 12

ESVP/ECVP Sessions   Joint Plenary Sessions   ESTP Sessions   Workshop

<p><b>08-15-08-30</b> Resero Analytics Sponsored Session Harnessing AI: Turbo Toxicology Integrates Cutting-Edge LLMs for Enhanced Reporting of Pathology and Toxicology Study Data <i>David Watson</i></p> <p><b>08-30-09-30</b> The role of the brain barriers in CNS immunity during health and neural inflammation <i>Britta Engelhardt</i></p> <p><b>09-30-10-30</b> Poster session <i>Moderators: Diethilde Theil &amp; Ingrid Pardo</i></p>	<p><b>09-45-10-30</b> Poster Flash Presentations <i>Moderator: Rute Noiva</i></p>	<p><b>10-30-11-00</b> COFFEE BREAK   POSTER TOUR &amp; EXHIBITION <i>Johnson &amp; Johnson</i></p> <p><b>11-00-12-00</b> TB in captive and free-ranging wild animals <i>Christian Gortazar</i></p> <p><b>WILDLIFE</b> <i>Moderators: Antonio Fernandez &amp; Judith van den Brand</i></p> <p><b>12-00-13-00</b> Oral Presentations Exotic, Wildlife &amp; Zoo Animals <i>Moderators: Antonio Fernandez &amp; Judith van den Brand</i></p>	
<p><b>11-00-13-00</b> Veterinary Dermatopathology <i>Verena Affolter &amp; Charles Bradley</i></p> <p><b>DIAGNOSTICS-COMPANION ANIMALS</b> <i>Moderators: Paola Rocca-Baranca &amp; Richard Fox</i></p>	<p><b>11-00-11-45</b> Performance of Biomarkers NF-L, NSF, Tau and GFAP in Blood and Cerebrospinal Fluid in Rat for the Detection of Nervous System Injury <i>Warren Graeb</i></p> <p><b>CNS EVALUATION</b> <i>Moderators: Diethilde Theil &amp; Ingrid Pardo</i></p> <p><b>11-45-12-30</b> Behavioral tests in drug safety assessment-are they relevant for pathologists? <i>Andrea Greier-Wilke</i></p> <p><b>CNS EVALUATION</b> <i>Moderators: Diethilde Theil &amp; Ingrid Pardo</i></p> <p><b>12-30-13-00</b> AWARDS CEREMONY <i>Moderators: Diethilde Theil &amp; Ingrid Pardo</i></p>	<p><b>13-00-14-15</b> LUNCH   POSTER TOUR &amp; EXHIBITION</p>	
<p><b>13-45-14-15</b> Decipher Sponsored Session Foresight: Enhancing Toxicologic Pathology with AI decision support - Through Pathologists Insights <i>Louise Lord Bissett &amp; Lise Bertrand</i></p> <p><b>14-15-15-00</b> Neuropathology through the lens of translatinal imaging: Opportunities for preclinical therapy assessment <i>Nicolai Beckmann</i></p> <p><b>CNS EVALUATION</b> <i>Moderators: Diethilde Theil &amp; Emily Meseck</i></p> <p><b>15-00-15-45</b> Electrophysiology (EEG/NCV) <i>Veronika Stein</i></p> <p><b>CNS EVALUATION</b> <i>Moderators: Diethilde Theil &amp; Emily Meseck</i></p>	<p><b>14-15-15-45</b> ORAL PRESENTATIONS DIAGNOSTICS <i>Moderators: Dimitra Psalidas &amp; Valentina Zapullji</i></p>	<p><b>14-15-15-00</b> Invertebrate Pathology: Approach to Diagnostics and Common Diseases, Including Inflammation, Infection, Environmental Stress/Toxin Exposure, Negative Energy Balance, and Neoplasia <i>Elise Labouceur</i></p> <p><b>UNUSUAL SPECIES</b> <i>Moderators: Pompei Bolfa &amp; Udo Hetzel</i></p> <p><b>15-00-15-45</b> Overview of transmissible cancers in bivalve molluscs <i>Antonio Villalba</i></p> <p><b>UNUSUAL SPECIES / ONCOLOGY</b> <i>Moderators: Pompei Bolfa &amp; Udo Hetzel</i></p>	<p><b>14-45-15-45</b> Diversity, Equity, Inclusion: problem-solving together <b>INTERACTIVE INFORMATION SESSION</b> <i>Moderators: Chiara Palmieri &amp; Erika Abbondati &amp; Emilian Malek &amp; Sarah Kirschner-Kitz</i></p>
<p><b>16-15-17-00</b> MRI and histopathology in multiple sclerosis <i>Christina Granziera</i></p> <p><b>CNS EVALUATION</b> <i>Moderators: Diethilde Theil &amp; Emily Meseck</i></p> <p><b>17-00-17-45</b> CNS safety biomarker and their application in clinical settings <i>Tobias Derruss</i></p> <p><b>CNS EVALUATION</b> <i>Moderators: Diethilde Theil &amp; Emily Meseck</i></p> <p><b>17-45-18-00</b> You've thought of it, but have you ever seen it? Interesting neuropathological findings in the brains of Wistar rats <i>Kathrin Becker</i></p> <p><b>CASE PRESENTATION</b> <i>Moderators: Diethilde Theil &amp; Emily Meseck</i></p>	<p><b>16-15-17-00</b> Teaching Veterinary Pathology to Veterinary Medicine Students: what European perspective? <i>Massimo Castagnaro</i></p> <p><b>TEACHING</b> <i>Moderators: Laura Peña &amp; Andrea Gudán</i></p> <p><b>17-00-17-45</b> Oral Presentations Livestock &amp; Others <i>Moderators: Laura Peña &amp; Andrea Gudán</i></p>	<p><b>16-15-17-45</b> Oral Presentations Livestock &amp; Laboratory Animals <i>Moderators: Ingo Gerhauer &amp; Hanne Jahns</i></p>	<p><b>16-15-17-45</b> Overview of the Histology of Invertebrate Species <i>Elise Labouceur</i></p> <p><b>INTERACTIVE WORKSHOP</b></p>
<p><b>18-00-20-00</b> AIRA MATRIX AIRATOX EUROPEAN LAUNCH <i>Monte De Los Angeles</i></p>	<p><b>18-00-19-30</b> ECVP AGM</p>	<p><b>19-30-21-00</b> WISDOM Train your brain</p>	

**PROGRAMME | FRIDAY 30<sup>TH</sup> AUGUST 2024**

AULA MAGNA

AULA 14+15

AULA 13

AULA 12

ESVP/ECVP Sessions    Joint Plenary Sessions    ESTP Sessions    Workshop

<p><b>08:15-08:30</b> Standard BioTools Sponsored session: Fast high-plex tumor microenvironment investigation: from tissue heterogeneity to single cell analysis <i>David Guet</i></p> <p><b>08:30-09:30</b> A Fandango of Form and Function: The Interplay between Clinical Neurology and Neuropathology Investigation <i>Brad Bolin</i></p> <p><b>GENERAL PATHOLOGY</b> Moderators: <i>Pompei Bolta &amp; Sameh Youssef</i></p> <p><b>09:30-10:00</b> Bridging the Gap: Understanding Dementia through Animal Models <i>Laura Fusaro</i></p> <p><b>NEURODEGENERATIVE DISEASES</b> Moderators: <i>Alok Sharma &amp; Sameh Youssef</i></p> <p><b>10:00-10:30</b> Autoimmune Neurodegenerative Diseases: Shifting Paradigms and Emerging Opportunities (MS, Guillain-Barre) <i>Dinesh Bangari</i></p> <p><b>NEURODEGENERATIVE DISEASES</b> Moderators: <i>Alok Sharma &amp; Sameh Youssef</i></p>	<p><b>09:45-10:30</b> Poster Flash Presentations Moderators: <i>Nemrin Caliskan</i></p>	<p><b>11:00-12:00</b> Highly infectious diseases in ruminants - just the usual suspects? <i>Angèle Beirnaep</i></p> <p><b>PARK ANIMAL HEALTH</b> Moderators: <i>Reine Dijkman &amp; Henrik-Evang Jensen</i></p> <p><b>12:00-13:00</b> Epizootic hemorrhagic disease: an emerging vector-borne viral pathology with a big impact on Spanish cattle <i>Marcelo de las Heras</i></p> <p><b>FARM ANIMAL HEALTH</b> Moderators: <i>Reine Dijkman &amp; Henrik-Evang Jensen</i></p>	<p><b>16:15-17:15</b> Establishing Consistency in Tumor Prognosis Assessment: How do your evaluations stack up against those of your peers? <i>Christol Bertram &amp; Pompei Bolta</i></p>
<p><b>11:00-11:45</b> Using advanced human in vitro models to study neurodegenerative disease <i>Javier PastorKamp</i></p> <p><b>NEURODEGENERATIVE DISEASES</b> Moderators: <i>Alok Sharma &amp; Sameh Youssef</i></p> <p><b>11:45-12:30</b> Update on cannabinoid-based therapeutic options for treating neurodegenerative disorders <i>Javier Ruiz</i></p> <p><b>NEURODEGENERATIVE DISEASES</b> Moderators: <i>Alok Sharma &amp; Sameh Youssef</i></p> <p><b>12:30-13:00</b> Panel Discussion <i>Laura Fusaro &amp; Dinesh Bangari &amp; Jeroen PastorKamp &amp; Javier Fernandez Ruiz</i></p> <p><b>NEURODEGENERATIVE DISEASES</b> Moderators: <i>Alok Sharma &amp; Sameh Youssef</i></p>	<p><b>11:00-12:00</b> Tumours of the urogenital system: the old, the new and the fugitive! <i>Chiara Faimetti &amp; Valeria Grieco</i></p> <p><b>DIAGNOSTICS COMPAION ANIMALS</b> Moderators: <i>Giancarlo Avallone &amp; Jerome Abadie</i></p> <p><b>12:00-13:00</b> Oral Presentations Small Animal Moderators: <i>Giancarlo Avallone &amp; Jerome Abadie</i></p>	<p><b>13:00-14:15</b> LUNCH   POSTER TOUR &amp; EXHIBITION</p>	<p><b>14:15-15:45</b> Oral Presentations Livestock, Horses, Exotic, Wildlife &amp; Zoo Animals Moderators: <i>Manan Tallescu &amp; Cecilia Ley</i></p>
<p><b>13:45-14:15</b> Aira Matrix-Sponsored Session: Deep Learning-Based Spermatogenic Staging in Tissue Sections of Cynomolgus Macaque Testes <i>Svenja Hartung &amp; Chaitri Kondragunta</i></p> <p><b>14:15-15:15</b> Towards standardization of histologic tumor prognostic parameters - does it really matter? <i>Christol Bertram &amp; Pompei Bolta</i></p> <p><b>ONCOLOGY</b> Moderators: <i>Koen Chiers &amp; Simone de Brot</i></p>	<p><b>14:15-14:35</b> Past current and future of Developmental Neurotoxicity studies <i>Frédéric Schorsch</i></p> <p><b>INTRODUCTION TO DNT</b> Moderators: <i>Deepa Bandi Rao &amp; Sibylle Gröters</i></p> <p><b>14:35-15:00</b> Developmental Neuropathology: Introduction and overview <i>Wolfgang Kaufmann</i></p> <p><b>DNT</b> Moderators: <i>Deepa Bandi Rao &amp; Sibylle Gröters</i></p> <p><b>15:00-15:45</b> Morphometrics in developmental neurotoxicity studies - pitfalls and interpretation <i>Heike Markfeld</i></p> <p><b>DNT</b> Moderators: <i>Deepa Bandi Rao &amp; Sibylle Gröters</i></p>	<p><b>15:45-16:15</b> COFFEE BREAK   POSTER TOUR &amp; EXHIBITION</p>	<p><b>16:15-17:45</b> How to be better prepared for Data analysis and tox path problems in the Comprehensive section TEACHING / ECVP</p>
<p><b>15:15-15:45</b> Oral Presentations Small Animal &amp; Others Moderators: <i>Koen Chiers &amp; Simone de Brot</i></p> <p><b>16:15-17:15</b> Humans Forensics - Brain Trauma <i>Joao Pinheiro</i></p> <p><b>FORENSICS</b> Moderators: <i>Lorenzo Ressel &amp; Pedro Faisca</i></p>	<p><b>16:15-16:45</b> Thyroid Hormone Imbalances-tox Aspects <i>Stephanie Weidling-Kollmus</i></p> <p><b>DNT</b> Moderators: <i>Deepa Bandi Rao &amp; Sibylle Gröters</i></p>	<p><b>16:15-17:45</b> How to be better prepared for Data analysis and tox path problems in the Comprehensive section TEACHING / ECVP</p>	<p><b>16:15-17:15</b> Establishing Consistency in Tumor Prognosis Assessment: How do your evaluations stack up against those of your peers? <i>Christol Bertram &amp; Pompei Bolta</i></p>
<p><b>17:15-18:00</b> Oral presentations Forensics Moderators: <i>Lorenzo Ressel &amp; Pedro Faisca</i></p>	<p><b>17:15-18:45</b> SEAVP AGM</p>	<p><b>18:00-19:00</b> ESVP AGM</p>	<p><b>19:30-01:00</b> GALA DINNER   MIRAVALLE</p>



**PROGRAMME | SATURDAY 31<sup>ST</sup> AUGUST 2024**

AULA MAGNA

AULA 14+15

AULA 13

AULA 12

ESVP/ECVP Sessions   Joint Plenary Sessions   ESTP Sessions   Workshop

<p><b>09:30-11:00</b> What's your Diagnosis <i>Pedro Faisca &amp; Luca Alesu</i>  <b>INTERACTIVE MYSTERY SLIDE SESSION</b></p>	<p><b>09:00-09:45</b> Computational pathology applied to toxicologic pathology: Learning to ride AI's wave of opportunity <i>Julie Boisclair</i>  <b>RECENT NEURO CONCEPTS</b> Moderators: Pierre Maliver &amp; Elizabeth Galbreath</p>		
<p><b>09:45-10:00</b> Digital pathology and AI applied to tox path:                  Q&amp;A-free discussion  <b>RECENT NEURO CONCEPTS</b> <i>Pierre Maliver, Elizabeth Galbreath, Julie Boisclair &amp; Erio Barale-Thomas</i></p>	<p><b>09:45-10:00</b> Digital pathology and AI applied to tox path:                  Q&amp;A-free discussion  <b>RECENT NEURO CONCEPTS</b> <i>Pierre Maliver, Elizabeth Galbreath, Julie Boisclair &amp; Erio Barale-Thomas</i></p>		
<p><b>10:00-10:45</b> Neuro pathology insights via cryofluorescent tomography (CFT) <i>Elizabeth Galbreath</i>  <b>RECENT NEURO CONCEPTS</b> Moderators: Pierre Maliver &amp; Elizabeth Galbreath</p>	<p><b>10:00-10:45</b> Neuro pathology insights via cryofluorescent tomography (CFT) <i>Elizabeth Galbreath</i>  <b>RECENT NEURO CONCEPTS</b> Moderators: Pierre Maliver &amp; Elizabeth Galbreath</p>		
<p><b>10:45-11:00</b> Case Presentation: Comparative ANV-duplex amIR-SOD1-related findings in nervous system of cynomolgus monkeys, New Zealand White rabbits, and C57BL/6 mice <i>Ingrid Fardo</i>                  Moderators: Pierre Maliver &amp; Elizabeth Galbreath</p>	<p><b>10:45-11:00</b> Case Presentation: Comparative ANV-duplex amIR-SOD1-related findings in nervous system of cynomolgus monkeys, New Zealand White rabbits, and C57BL/6 mice <i>Ingrid Fardo</i>                  Moderators: Pierre Maliver &amp; Elizabeth Galbreath</p>	<p><b>11:00-11:30</b> COFFEE BREAK</p>	
<p><b>11:30-12:15</b> Tissue technology in blood-brain barrier organoids as early drug screening <i>Luisa Bell</i>  <b>RECENT NEURO CONCEPTS</b> Moderators: Pierre Maliver &amp; Elizabeth Galbreath</p>	<p><b>11:30-12:15</b> PARR what does it mean? <i>Manfred Henrich</i>  <b>DIAGNOSTICS</b> Moderators: Elena Riccardi &amp; Christof Bertram</p>	<p><b>11:30-13:00</b> The Global Health Pathology Network (GHPN) and Establishing Relationships Through Four Additional Pathology Training: An Information Session <i>Xavier Asin</i>  <b>INFORMATION SESSION</b></p>	<p><b>11:30-13:00</b> Certificate in Veterinary Forensic Pathology: a Simulation <i>Steering Group</i>  <b>INTERACTIVE WORKSHOP FORENSIC</b></p>
<p><b>12:15-13:00</b> Unveiling CNS Complexity and Drug Responses through Spatial Transcriptomics <i>Kerstin Halm &amp; Benedek Festi</i>  <b>RECENT NEURO CONCEPTS</b> Moderators: Pierre Maliver &amp; Elizabeth Galbreath</p>	<p><b>12:15-13:00</b> From Pixels to Patterns: The Transformative Power of AI in Neuropathology Research <i>Ley Stimmer</i>                  Moderators: Elena Riccardi &amp; Christof Bertram</p>		
<p><b>13:00-13:15</b> Case Presentation: Bilateral basal nuclei vacuolar lesions- A novel and emerging potential background finding in Beagle dogs <i>Stefanie Arms</i>                  Moderators: Pierre Maliver &amp; Elizabeth Galbreath</p>			
<p><b>13:15-13:30</b> Case Presentation: Ultrastructural changes in sensory nerves: Findings in DRG and peripheral nerves <i>Emily Messek</i>                  Moderators: Pierre Maliver &amp; Elizabeth Galbreath</p>			



## SOCIAL PROGRAM

### Wednesday 28<sup>th</sup> August 2024 | Congress Opening and Welcome Reception

19.00-20.00 | Congress Opening  
20.00-21.30 | Welcome Reception

#### Venue: Real Colegio Universitario Maria Cristina

The CEP Congress invites all attendees to join during the official congress opening! The welcome reception is a great opportunity to network, meet old friends and colleagues, and make new ones. We will start the congress with an official welcome, followed by a traditional Spanish entertainment performance. After the official opening you can enjoy a 'Spanish Wine' in the courtyard of Real Colegio Universitario Maria Cristina, with some drinks and canapes.

### Friday 30<sup>th</sup> August 2024 | Gala Dinner & Dance Party

19.30-01.00 | Gala Dinner & Dance Party

#### Venue: Finca Miravalle, Carretera de A Coruña, 28440 Guadarrama Madrid\*

\*\* Shuttle buses will be arranged from and to San Lorenzo de El Escorial and back to Sercotel Gran Hotel Conde Duque and Hotel Exe Moncloa.

The Gala Dinner will take place at the beautiful Finca Miravalle, located just outside San Lorenzo de El Escorial. Surrounded by more than 5,000 square meters of gardens, creating the perfect backdrop for a wonderful evening. The evening will start with an aperitif in the gardens, followed by a seated dinner. We are ending the evening with a dance party with a live DJ!



## SIDE MEETINGS ESTP



**Wednesday 28<sup>th</sup> August 2024** | Aula 2, 15.30-16.00  
**ESTP DigPath committee** | Informal gathering

*Chair: Lise Bertrand*

**Thursday 29<sup>th</sup> August 2024** | Aula 2, 11.35-12.35  
**Early Career Meeting** | Open meeting

**Thursday 29<sup>th</sup> August 2024** | Aula 2, 13.15-14.15  
**SOC 2025 Meeting** | Invitation only

*Chair: Thomas Nolte*

## SIDE MEETINGS ESVP / ECVP



**Wednesday 28<sup>th</sup> August 2024** | Aula 1, 09.00-18.00  
**ESVP Board Meeting** | On invitation only

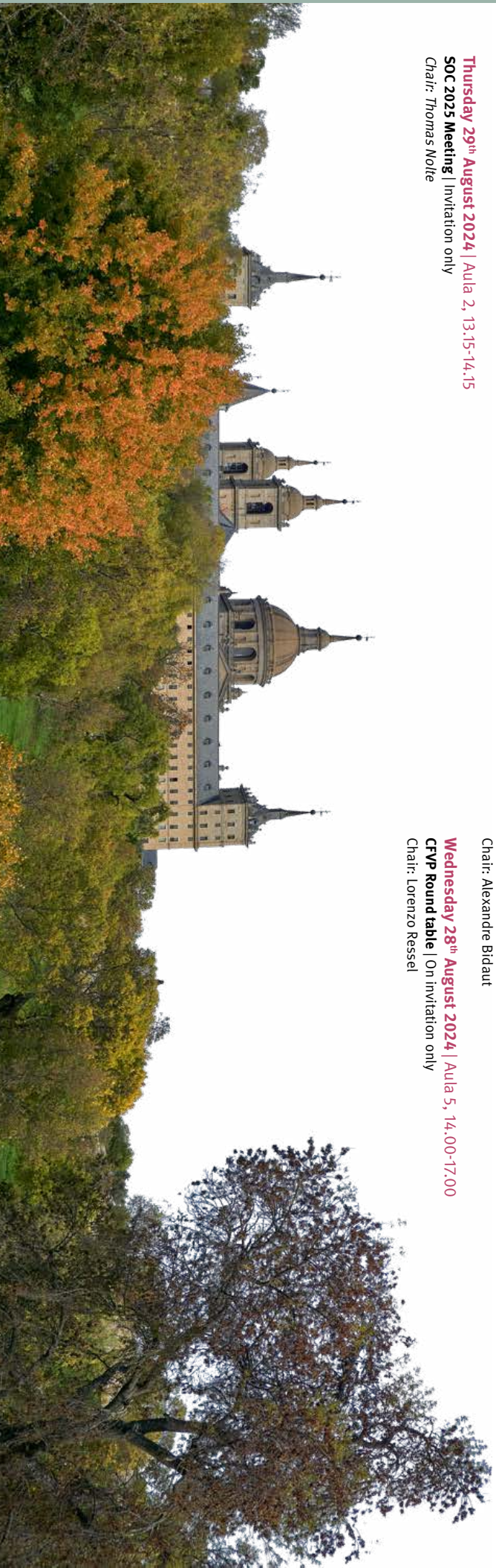
*Chair: Jérôme Abadie*

**Wednesday 28<sup>th</sup> August 2024** | Aula 3, 08.00-18.30  
**ECVP Board Meeting** | On invitation only

*Chair: Alexandre Bidaut*

**Wednesday 28<sup>th</sup> August 2024** | Aula 5, 14.00-17.00

**CFVP Round table** | On invitation only  
*Chair: Lorenzo Ressel*



## SPEAKER ABSTRACTS | WEDNESDAY 28 AUGUST 2024

### Resident Day

- 14.00-16.00 PICTURES OF PUBLICATION QUALITY, THE PERSPECTIVE OF THE PHOTO EDITORS AT THE VETERINARY PATHOLOGY JOURNAL *Silvia Ferro*  
16.30-18.30 DEALING WITH RESIDENTS' CHALLENGES *Chiara Palmieri & Pompei Bolfa*

### IATP Symposium

- 09.10-09.55 SCIENTIFIC EFFORTS FOR GAINING REGULATORY CONFIDENCE IN NAMS FOR NEUROTOXICITY  
*Ellen Fritsche*  
09.55-10.40 CURRENT STATE OF DEVELOPMENTAL NEUROTOXICITY (DNT) ASSESSMENT USING NEW APPROACH METHODOLOGIES (NAMS) *Helena Hogberg-Durdack*  
11.10-11.50 LARVAL ZEBRAFISH AS AN ALTERNATIVE IN VIVO MODEL FOR ASSESSING SEIZURE LIABILITY: FROM BEHAVIOUR THROUGH TO FUNCTIONAL BRAIN IMAGING *Matthew Winter*  
11.50-12.30 ASSESSMENT OF CHRONIC NEUROTOXICITY USING NAMS *Andrea Teroni*

### Toxicological Pathology

- 14.15-14.55 SAMPLING THE NERVOUS SYSTEM FOR HISTOPATHOLOGY EVALUATION: GETTING ALLIGNED TO DETECT EUROTOXICITY *Deepa Bandi Rao*  
14.55-15.20 BRAIN AND SPINAL CORD SAMPLING FOR MOLECULAR AND PROTEIN ANALYSIS *Xavier Palazzi*  
15.20-15.45 DIRECT DRUG DELIVERY INTO BRAIN PARENCHYMA IN MONKEYS: TECHNICAL ASPECTS AND PATHOLOGY FINDINGS *Alexandra Duetting & Annette Romeike*  
15.45-15.55 SILVER STAINING IN NEUROPATHOLOGY AND NEUROTOXICITY: PRACTICAL APPROACHES, ADVANTAGES, AND DISADVANTAGES *Kristel Kegler*  
15.55-16.05 IMMUNOHISTOCHEMISTRY CHARACTERIZATION OF GLIAL CELLS AROUND "HOLES" IN THE BRAIN - TWO SIMILAR EXPERIENCES IN THE DOG *Stefanie Arms & Enrico Vezzali*  
16.05-16.15 MYELIN METHODS *Brad Bolon*  
17.00-17.25 FINDING ONE'S WAY IN THE NERVOUS SYSTEM MAZE WITH AN AI COMPASS *Erio Barale-Thomas*



## SPEAKER ABSTRACTS | THURSDAY 29 AUGUST 2024

### Joint Stream

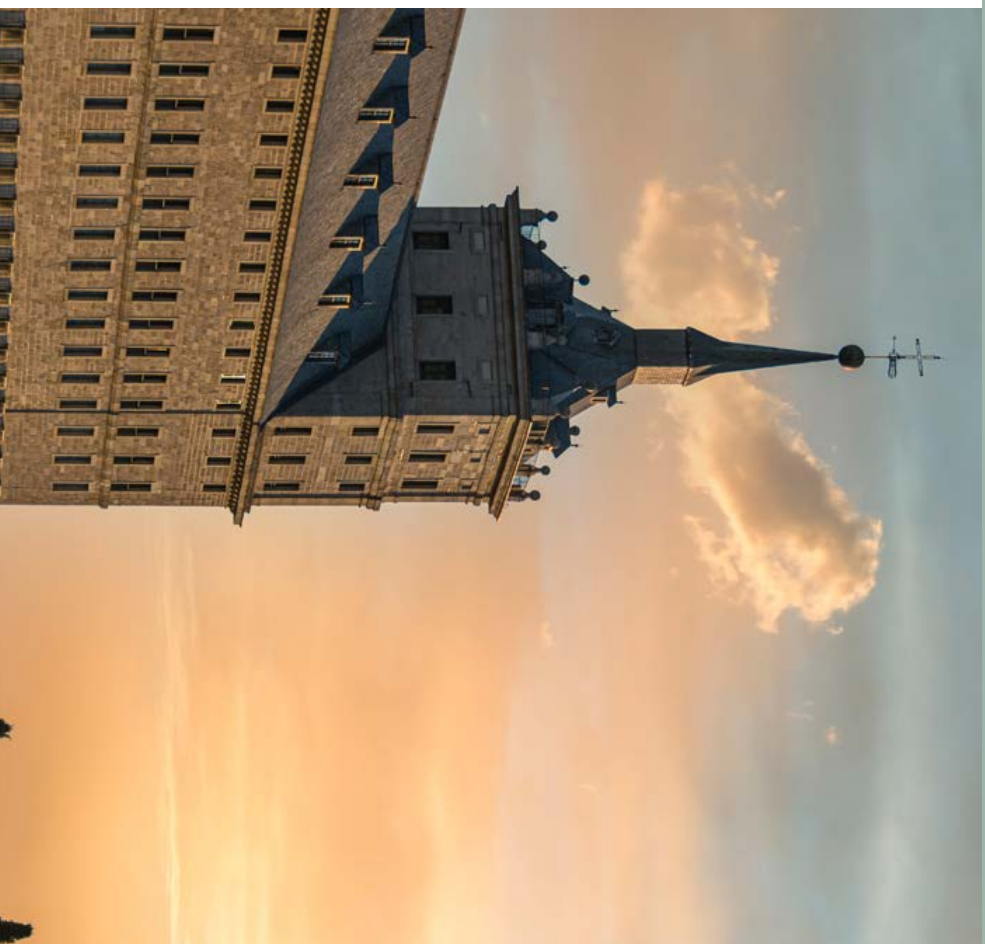
08:30-09:30 THE ROLE OF THE BRAIN BARRIERS IN CNS IMMUNITY DURING HEALTH AND NEUROINFLAMMATION *Britta Engelhardt*

### Toxicological Pathology

- 11.00-11.45 PERFORMANCE OF BIOMARKERS: NF-L, NSE, TAU AND GFAP IN BLOOD AND CEREBROSPINAL FLUID IN RAT FOR THE DETECTION OF NERVOUS SYSTEM INJURY *Warren Glaab*
- 11.45-12.30 BEHAVIORAL TESTS IN DRUG SAFETY ASSESSMENT - ARE THEY RELEVANT FOR PATHOLOGISTS?  
*Andrea Greiter-Wilke*
- 14.15-15.00 NEUROPATHOLOGY THROUGH THE LENS OF TRANSLATIONAL IMAGING: OPPORTUNITIES FOR PRECLINICAL THERAPY ASSESSMENT *Nicolau Beckmann*
- 15.00-15.45 ELECTROPHYSIOLOGY (EMG/NCV) *Veronika Stein*
- 16.15-17.00 MRI AND HISTOPATHOLOGY IN MULTIPLE SCLEROSIS *Christina Granziera*
- 17.00-17.45 CNS SAFETY BIOMARKER AND THEIR APPLICATION IN CLINICAL SETTINGS *Tobias Derfuss*

### Veterinary Pathology

- 11.00-13.00 VETERINARY DERMATOPATHOLOGY *Verena Affolter & Charles Bradley*
- 11.00-12.00 TB IN CAPTIVE AND FREE-RANGING WILD ANIMALS *Christian Gottazar*
- 14.15-15.00 INVERTEBRATE PATHOLOGY: APPROACH TO DIAGNOSTICS AND COMMON DISEASES, INCLUDING INFLAMMATION, INFECTION, ENVIRONMENTAL STRESS/TOXIN EXPOSURE, NEGATIVE ENERGY BALANCE, AND NEOPLASIA *Elise LaDouceur*
- 15.00-15.45 OVERVIEW OF TRANSMISSIBLE CANCERS IN BIVALVE MOLLUSCS *Antonio Villalba*
- 16.15-17.00 TEACHING VETERINARY PATHOLOGY TO VETERINARY MEDICINE STUDENTS: WHAT EUROPEAN PERSPECTIVE? *Massimo Castagnaro*



## SPEAKER ABSTRACTS | FRIDAY 30 AUGUST 2024

### Joint Stream

08.30-09.30 A FANDANGO OF FORM AND FUNCTION: THE INTERPLAY BETWEEN CLINICAL NEUROLOGY AND NEUROPATHOLOGY INVESTIGATION *Brad Bolon*

### Toxicological Pathology

09.30-10.00 BRIDGING THE GAP: UNDERSTANDING DEMENTIA THROUGH ANIMAL MODELS *Laura Fusaro*  
10.00-10.30 AUTOIMMUNE NEURODEGENERATIVE DISEASES: SHIFTING PARADIGMS AND EMERGING OPPORTUNITIES *Dinesh Bangari*

11.00-11.45 USING ADVANCED HUMAN IN VITRO MODELS TO STUDY NEURODEGENERATIVE DISEASE

*Jeroen Pasterkamp*

11.45-12.30 UPDATE ON CANNABINOID-BASED THERAPEUTIC OPTIONS FOR TREATING NEURODEGENERATIVE DISORDERS *Javier Fernández Ruiz*

14.15-14.35 PAST CURRENT AND FUTURE OF DEVELOPMENTAL NEUROTOXICITY STUDIES *Frédéric Schorsch*  
14.35-15.00 DEVELOPMENTAL NEUROPATHOLOGY: INTRODUCTION AND OVERVIEW *Wolfgang Kaufmann*

15.00-15.45 MORPHOMETRICS IN DEVELOPMENTAL NEUROTOXICITY STUDIES- PITFALLS AND INTERPRETATION *Heike Marxfeld*

16.15-16.45 THYROID HORMONE IMBALANCES - TOX ASPECTS *Stephanie Melching-Kollmus*  
16.45-17.15 THYROID HORMONE IMBALANCE IN PREGNANT RATS AND ITS IMPACT ON NEURODEVELOPMENT IN THE PUPS: A HUNT FOR A RELIABLE HISTOPATHOLOGICAL BIOMARKER *Babunilayam Gangadharan*

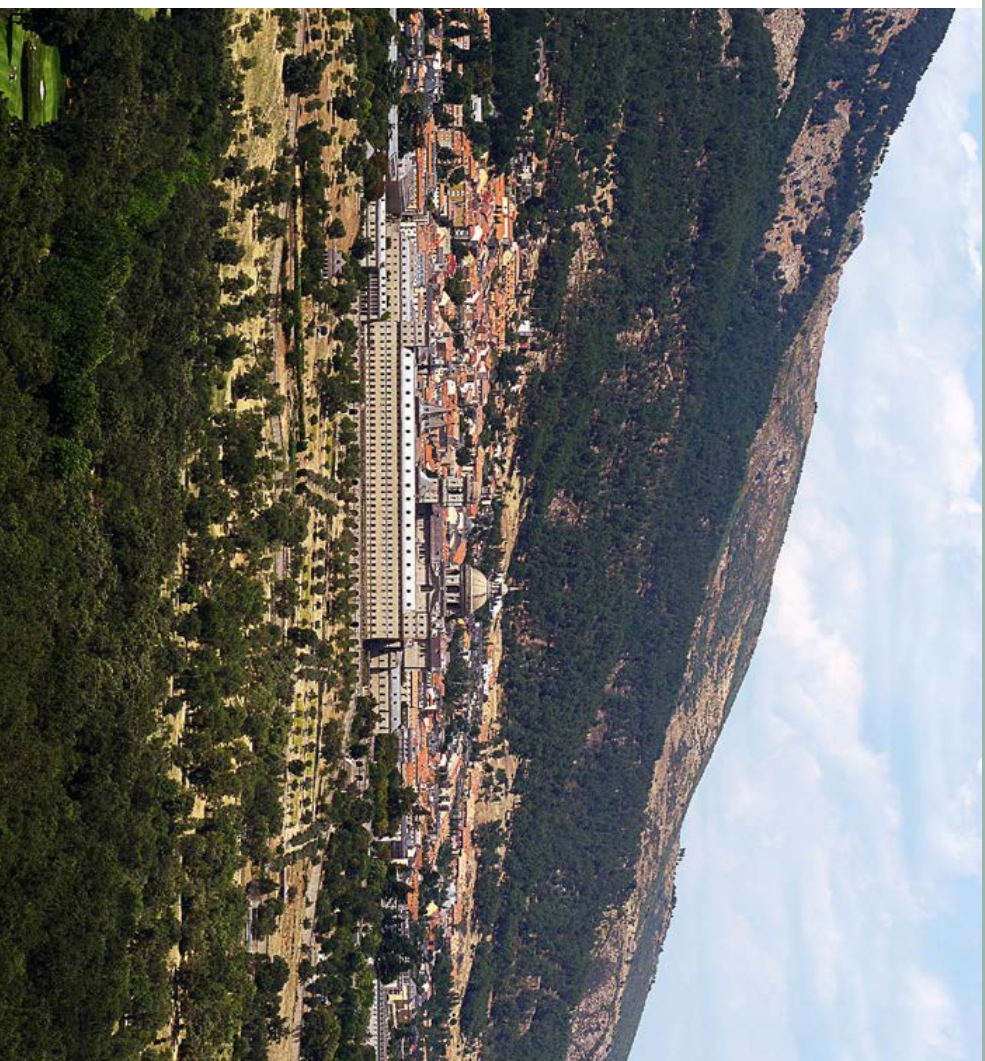
### Veterinary Pathology

11.00-12.00 TUMOURS OF THE UROGENITAL SYSTEM: THE OLD, THE NEW AND THE FUGITIVE! *Chiara Palmieri & Valeria Grieco*

11.00-12.00 HIGHLY INFECTIOUS DISEASES IN RUMINANTS: JUST THE USUAL SUSPECTS? *Angele Breithaupt*  
12.00-13.00 EPIZOOTIC HEMORRHAGIC DISEASE: AN EMERGING VECTOR-BORNE VIRAL PATHOLOGY WITH A BIG IMPACT ON SPANISH CATTLE *Marcelo de las Heras*

14.15-15.15 TOWARDS STANDARDIZATION OF HISTOLOGIC TUMOR PROGNOSTIC PARAMETERS - DOES IT REALLY MATTER? *Christof Bertram & Pompei Bolfa*

16.15-17.15 HUMANS FORENSICS - BRAIN TRAUMA *Joao Pinheiro*



## SPEAKER ABSTRACTS | SATURDAY 31 AUGUST 2024

### Toxicological Pathology

09.00-09.45 COMPUTATIONAL PATHOLOGY APPLIED TO TOXICOLOGIC PATHOLOGY: LEARNING TO RIDE AI'S

WAVE OF OPPORTUNITY *Julie Boisclair*

10.00-10.45 NEUROPATHOLOGY INSIGHTS VIA CRYOFLUORESCENT TOMOGRAPHY (CTF) *Elizabeth Galbreath*

11.30-12.15 TISSUE TECHNOLOGY IN BLOOD-BRAIN BARRIER ORGANIDS AS COMBINED EFFICACY/TOXICITY

HIGH THROUGHPUT SPATIAL READOUTS IN EARLY DRUG SCREENING *Luisa Bell*

12.15-13.00 UNVEILING CNS COMPLEXITY AND DRUG RESPONSES THROUGH SPATIAL TRANSCRIPTOMICS

*Kerstin Hahn & Benedek Pestl*

### Veterinary Pathology

11.30-13.00 THE GLOBAL HEALTH PATHOLOGY NETWORK (GHPN) AND ESTABLISHING RELATIONSHIPS

THROUGH FOUNDATIONAL PATHOLOGY TRAINING: AN INFORMATION SESSION *Javier Asin*

11.30 -12.15 PARR: WHAT DOES IT MEAN? *Manfred Henrich*

12.15-13.00 FROM PIXELS TO PATTERNS: THE TRANSFORMATIVE POWER OF AI IN NEUROPATHOLOGY

RESEARCH *Lev Stimmer*



## CASE PRESENTATIONS

### Toxicological Pathology | Thursday 29<sup>th</sup> August 2024

17.45-18.00 YOU'VE THOUGHT OF IT, BUT HAVE YOU EVER SEEN IT? - INTERESTING NEUROPATHOLOGICAL FINDINGS IN THE BRAINS OF WISTAR RATS *Kathrin Becker*

### Toxicological Pathology | Saturday 31<sup>st</sup> August 2024

10.45-11.00 COMPARATIVE AAV-AMIRSOD1-RELATED FINDINGS IN NERVOUS SYSTEM OF CYNOMOLGUS MONKEYS, NEW ZEALAND WHITE RABBITS, AND C57BL/6 MICE *Ingrid Pardo*

13.00-13.15 BILATERAL BASAL NUCLEI VACUOLAR LESIONS - A NOVEL AND EMERGING POTENTIAL

BACKGROUND FINDING IN BEAGLE DOGS *Stefanie Amms*

13.15-13.30 ULTRASTRUCTURAL CHANGES IN SENSORY NERVES: FINDINGS IN DRG AND PERIPHERAL NERVES

*Emily Meseck*



## POSTER FLASH

### Veterinary Pathology | Thursday 29<sup>th</sup> August 2024

- 09.45-09.51 EVALUATION OF ALTERNATIVE IMMUNIZATION STRATEGIES AGAINST PARATUBERCULOSIS IN GOATS  
*Miguel Criado*
- 09.51-09.57 EXTRACELLULAR VESICLE ISOLATION AND CHARACTERIZATION FROM BOTTLENOSE DOLPHIN'S (TURSIOPS TRUNCATUS) BLOW  
*Valentina Moccia*
- 09.57-10.03 METHODOLOGY: MASS SPECTROMETRY-BASED IDENTIFICATION OF ANIMAL AMYLOIDOSIS  
*Tomooki Murakami*
- 10.03-10.09 MULTISYSTEMIC MYXOZOAN INFECTION IN TOADFISH, TETRACENOS HAMILTONI CAUSED BY MONOMYXUM INCOMPTAVERMI  
*Atashi Nakashimi*
- 10.09-10.15 COMPARATIVE ANATOMY AND HISTOLOGY OF GUSTATORY PAPILLAE IN LABORATORY ANIMAL SPECIES  
*Ricardo de Miguel*

### Veterinary Pathology | Friday 30<sup>th</sup> August 2024

- 09.45-09.51 FROM CONCEPT TO REALITY: THE JOURNEY OF ESTABLISHING THE AUSTRALIAN COMPANION ANIMAL REGISTRY OF CANCERS (ACARCINOM)  
*Chiara Palmieri*
- 09.51-09.57 PORCINE NEPHROBLASTOMA AS A SPONTANEOUS ANIMAL MODEL FOR WILMS-TUMOR: PRELIMINARY RESULTS  
*Eleonora Brambilla*
- 09.57-10.03 STA3 PATHWAY IN CANINE ORAL MELANOMA: A POTENTIAL THERAPEUTIC TARGET?  
*Adriana Lo Giudice*
- 10.03-10.15 T1S, T1SS AND HLMS EVALUATION IN CANINE MAMMARY CARCINOMAS  
*Giada Giambrone*
- 10.15-10.21 PORCINE ALVEOLAR MACROPHAGES AND NASAL EPITHELIUM CAN INTERNALIZE PORCINE EPIDEMIC DIARRHEA VIRUS (PEDV) BUT DO NOT SUPPORT REPLICATION IN VITRO  
*Carlos López Figueroa*
- 10.21-10.27 IMPACT OF HANDLING TECHNIQUES ON UMBILICAL ULCERATIONS AND OMPHALITIS IN PIGLETS  
*Kristiane Barington*
- 10.27-10.33 CANINE ORAL MELANOMA MACROPHAGE-POOR HETEROSPHEROIDS: AN UPSIDE DOWN MODEL TO INVESTIGATE TUMOR MICROENVIRONMENT  
*Iaria Borcellato*



## ORAL ABSTRACTS

### Veterinary Pathology | Thursday 29<sup>th</sup> August 2024

- 12.00-12.12 THE SKIN I LIVE IN. THE INTRACELLULAR LIFE STYLE OF P. DESTRUCTANS DURING WHITE-NOSE SYNDROME OF BATS Marcos Isidoro-Ayza
- 12.12-12.24 DETECTION OF HIGHLY PATHOGENIC AVIAN INFLUENZA H5N1 IN MARINE MAMMALS FROM SOUTH AMERICA Eva Sierra
- 12.24-12.36 HIGHLY METASTATIC MAMMARY CARCINOMAS IN TWO PATAGONIAN SEA LIONS Elena Colombino
- 12.36-12.48 PATHOLOGIES AND CAUSES OF DEATH IN STRANDED CETACEANS IN THE CANARY ISLANDS (2013-2018) Pablo Jose Diaz Santana
- 12.48-13.00 MORTALITY IN ENDANGERED MAUI DOLPHINS Wendi Roe
- 14.15-14.27 EXPLORING NEW DIAGNOSTIC MARKERS IN FELINE NASAL LYMPHOMA Rute Noiva
- 14.27-14.39 EVIDENCE OF RUSTRELA VIRUS-ASSOCIATED FELINE STAGGERING DISEASE IN SWEDEN SINCE THE 1970S Emma Thilen
- 14.39-14.51 KEY MILESTONES FOR THE DIAGNOSTIC OF EPIZOOTIC HEMORRHAGIC DISEASE IN CALVES Ana Rodríguez-Largo
- 14.51-15.03 BONE PATHOLOGY IN COMMERCIAL PIGS. TIME TO DEAL WITH THE ELEPHANT IN THE ROOM? Albert Canturri
- 15.03-15.15 FROM PIXELS TO PIGLETS: UTILIZING DIGITAL IMAGE ANALYSIS AND DEEP LEARNING TO COMBAT PORCINE DIARRHEA Cecile Brandt Becker
- 15.15-15.27 HEDGEHOG ARTERIVIRUS-ASSOCIATED ENCEPHALITIS IN CAPTIVE EUROPEAN HEDGEHOGS (ERINACEUS EUROPAEUS) IN WILDLIFE REHABILITATION CENTRES IN ENGLAND Fabian ZX Lean
- 15.27-15.39 COMBINING STEREOLOGY AND IMAGE ANALYSIS FOR ACCURATE AND FAST QUANTIFICATION IN EXPERIMENTAL PATHOLOGY Pedro Fátisca
- 16.15-16.27 EFFECT OF THE ORAL ADMINISTRATION OF HEAT-KILLED MYCOBACTERIUM MARIENSES ON INTESTINAL HEALTH AND IMMUNOLOGY PARAMETERS OF WEANED PIGLETS Carmen Álvarez-Delgado
- 16.27-16.39 LIVER LESIONS IN SHEEP VACCINATED AGAINST E. HEPATICA WITH AND WITHOUT NALTREXONE AS IMMUNE MODULATOR María Teresa Ruiz-Campillo
- 16.39-16.51 EFFECTS OF VACCINATION ON THE IMMUNOHISTOCHEMICAL EXPRESSION OF FN-Y AND MACROPHAGE POLARIZATION IN CALVES EXPERIMENTALLY INFECTED WITH PARATUBERCULOSIS David Zapico
- 16.51-17.03 EARLY PATHOGENESIS AND INNATE IMMUNE RESPONSES AGAINST TWO STRAINS OF PORCINE EPIDEMIC DIARRHOEA VIRUS IN NEWBORN AND WEANED PIGLETS Carlos López-Figueroa
- 17.03-17.15 ADVERSE REACTIONS AFTER VACCINATION IN SHEEP: A REVIEW OF EXTRINSIC EVENTS OVER THE LAST 30 YEARS Estela Pérez
- 17.15-17.27 DIGITAL HISTOPATHOLOGY ANALYSIS OF LYMPHOID ORGANS FROM GOATS EXPERIMENTALLY INFECTED WITH HIGHLY AND MILDLY VIRULENT PRRV STRAINS Lorenz Grau-Roma
- 17.27-17.39 QUANTITATIVE AND QUALITATIVE ASSESSMENT OF HISTOLOGIC LESIONS IN HONEY BEES (APIS MELLIFERA) INFECTED WITH CHRONIC BEE PARALYSIS VIRUS Peter Richards-Rios
- 17.00-17.12 SLC25A12-RELATED INHERITED FORM OF PORENCEPHALY IN LIMOUSIN CALVES Tobias Floyd
- 17.12-17.24 DISTINCT SUBCELLULAR DYNAMICS OF LISTERIA MONOCYTOGENES IN MICROGLIA AND MONOCYTE-DERIVED MACROPHAGES: IMPLICATIONS FOR THE PATHOGENESIS OF NEUROLISTERIOSIS Margherita Polidori
- 17.24-17.36 SUSTAINED REDUCTION OF 2-OXOGLUTARATE DEHYDROGENASE COMPLEX ACTIVITY IN RAT BRAIN AFTER VENTRICULAR FIBRILLATION CARDIAC ARREST MAY CONTRIBUTE TO EXTENDED EXCITOTOXICITY Sandra Högl



## ORAL ABSTRACTS

### Veterinary Pathology | Friday 30<sup>th</sup> August 2024

- 12.00-12.12 TUMOR INFILTRATING LYMPHOCYTES (TILS) VARIES IN DIFFERENT CANINE SOFT TISSUE SARCOMA (STS) TYPES. *Giuseppe Avallone*
- 12.12-12.24 ASSOCIATION BETWEEN DOMESTIC CAT HEPADNAVIRUS AND FELINE HEPATOCELLULAR CARCINOMA. *Min Chun Chen*
- 12.24-12.36 PATIENT-DERIVED EXPLANTS FROM CANINE MAMMARY GLAND CANCER USING HETEROLOGOUS PLATELET-RICH PLASMA AS CULTURE MEDIUM. *Alessandra Sfertera*
- 12.36-12.48 HIGH-THROUGHPUT MULTI-DRUG SCREENING FOR IDENTIFYING POTENTIAL NEW THERAPIES IN MUCOSAL MELANOMA. *Alice Musi*
- 12.48-13.00 FELINE NASAL PLANUM SQUAMOUS CELL CARCINOMA: PRELIMINARY INVESTIGATION ON EPITHELIAL TO MESENCHYMAL TRANSITION (EMT) AND FELINE PAPILLOMA VIRUS INFECTION STATUS. *Federico Armando*
- 13.00-13.12 DIGITAL KARYOMETRY CONFIRMS INCREASED NUCLEAR SIZE AS DIAGNOSTIC TUMOR MARKER FOR CANINE UROTHELIAL CARCINOMA. *Simone De Brot*
- 14.15-14.27 FREQUENCY OF DETECTION OF PORCINE CIRCOVIRUSES IN RETROSPECTIVELY SELECTED CASES OF PORCINE DERMATITIS AND NEPHROPATHY SYNDROME. *Álex Cobos*
- 14.27-14.39 IDIOPATHIC INTERSTITIAL PNEUMONIAS IN FOALS FROM CALIFORNIA, 1990-2020. *Javier Asin*
- 14.39-14.51 OVINE ICHTHYOSIS CONGENITA: DESCRIPTION AND CLINICOPATHOLOGIC EVOLUTION. *Álex Gómez*
- 14.51-15.03 ULTRASTRUCTURAL AND TRANSCRIPTOME ANALYSIS OF CEREBELLUM IN PIGLETS BORN WITH CONGENITAL TREMOR TYPE A-II, A LONGITUDINAL STUDY. *Anna Bergfeldt*
- 15.03-15.15 CARPAL CONTRACTURE: A PILOT STUDY OF AN INCREASING FRONT LEG PROBLEM IN NORWEGIAN PIG. *Randi Sørby*
- 15.15-15.27 BLUE TONGUE IN BIGHORN SHEEP IN CENTRAL/SOUTHERN CALIFORNIA. *Eileen Henderson*
- 15.27-15.39 PNEUMONIA IN CALIFORNIA DONKEYS. *Nicolas Streitenberger*
- 15.15-15.27 MULTIPLEX IMMUNOHISTOCHEMISTRY AND SUPERVISED MACHINE LEARNING FOR IMMUNE CELLS TOPOGRAPHY IN CANINE PDL ITTISED UROTHELIAL CARCINOMA. *Luisa Vera Muscatello*
- 15.27-15.39 IMPLEMENTING AI IN DIGITAL HISTOPATHOLOGY: TOWARDS QUANTITATIVE ANALYSIS AND MACHINE LEARNING INTEGRATION IN DIAGNOSTICS AND RESEARCH. *Constance De Meeds d'Argenteuil*
- 17.15-17.27 USING NEXT-GENERATION SEQUENCING AND IN SITU HYBRIDIZATION TO IDENTIFY TRANSCRIPTOMIC EXPRESSIONS OF MOUSE BRAINS FOR ESTIMATING POSTMORTEM INTERVALS. *Wei-Hsiang Huang*
- 17.27-17.39 INTERSTITIAL AND PERTONEAL LESIONS IN WOUNDED UMBILICAL OUTPOUCHINGS IN PIGS AFTER TRANSPORTATION. *Henrik Eivang Jensen*



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- 8 A MECHANISTIC ONE-GENERATION RAT STUDY TO HIGHLIGHT THYROID DISRUPTION IMPACT ON DEVELOPMENTAL NEUROTOXICITY USING PATHOLOGY AND SPATIAL TRANSCRIPTOMICS ANALYSIS *Nais Clavel Rolland*
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- 15 ASSESSMENT OF REPRODUCTIVE AND DEVELOPMENTAL TOXICITY INDUCED BY PERFLUOROPENTANOIC ACID (PFPEA) IN SPRAGUE-DAWLEY RATS *Wan-Jung Im*
- 18 ASSESSMENT OF COMPOUND-INDUCED HEPATOCELLULAR HYPERTROPHY IN RATS THROUGH DEEP LEARNING-BASED QUANTITATIVE ANALYSIS *Richard Fox*
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- 22 ARTIFICIAL INTELLIGENCE BASED NUCLEAR DENSITY MAPS FACILITATE HEPATOCELLULAR HYPERTROPHY DETECTION ON A WHOLE SLIDE VIEW *Judit Magnusson Wulcan*
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## SPEAKER ABSTRACTS

Resident Day | Wednesday 28<sup>th</sup> August 2024, 14.00-16.00

### PICTURES OF PUBLICATION QUALITY, THE PERSPECTIVE OF THE PHOTO EDITORS AT THE VETERINARY PATHOLOGY JOURNAL

Silvia Ferro

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Publishing accurate and high-quality images in a scientific journal is as crucial as publishing a solid research study, since images encapsulate and exhibit the outcomes of the research conducted. For this reason, an image must be realistic, perfectly centered on the lesion that should be easily identifiable, devoid of artifacts, and of the highest quality. The process begins with capturing the image. Photographing gross lesions requires taking precautions and using a special setup to ensure proper illumination. Similarly, capturing images through a microscope necessitates a thorough understanding of the instrument itself. Another vital component in producing a publishable image is the editing process. This presentation will explore these steps in detail, alongside the specific guidelines and standards set by the Veterinary Pathology Journal.

The significance of this topic stems from the pivotal role that images play in enhancing the comprehensibility and impact of scientific research. Images not only serve as proof of the findings but also facilitate a quicker understanding and appreciation of the complex details presented in the study. In the realm of veterinary pathology, where macroscopic and microscopic lesions provide critical insights into diseases, the ability to produce clear, informative, and accurate images is indispensable.

The first section of the presentation will focus on the technicalities of photographing gross lesions, emphasizing the importance of background selection, lighting, and camera settings that contribute to a well-composed and informative image. It will provide practical advice on avoiding common pitfalls and ensuring that the images accurately reflect the specimen's condition without introducing distortion or misleading details. Transitioning to microscopic photography, this segment will cover essential topics such as adjusting lighting, white balance, and focus to capture detailed images that are representative of the microscopic features observed. Special attention will be given to the use of the condenser to avoid chromatic aberration.

The editing phase is crucial in preparing an image for publication. However, it's imperative to maintain the integrity of the image, ensuring that the editing process enhances clarity without altering the scientific truth of the visual data. This section will discuss the ethical considerations in image editing, outlining what is considered acceptable in terms of cropping, adjusting brightness/contrast, and annotating images. We will also introduce the tools and software most suited for these tasks, providing attendees with the knowledge to select and utilize the appropriate resources for their image editing needs.

Finally, the presentation will review the Veterinary Pathology Journal's specific requirements and recommendations for submitting images. Understanding these guidelines is essential for researchers looking to contribute their findings to the scientific community through this esteemed publication. We will cover topics such as resolution standards, file formats, and preparing a plate of images. In conclusion, this presentation aims to equip veterinary pathologists and researchers with the knowledge and skills necessary to capture and edit images that not only meet the rigorous standards of scientific publication but also significantly contribute to the dissemination and understanding of their research findings. Through a combination of technical guidance, practical tips, and ethical considerations, attendees will leave better prepared to produce publication-worthy images that effectively communicate the essence of their work.

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## POSTER ABSTRACTS

### Veterinary Pathology: Exotic, wildlife & zoo animals

#### 287 | NEUROLOGICAL LESIONS IN CERVIDS: A STUDY IN PORTUGAL

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#### **Background**

Brain samples were collected within the project “CWD Risk in Portugal”, profiting the infectious diseases epidemiological surveillance and screening of chronic wasting disease (CWD) during cervids hunts. The literature on wild animals’ neuropathological lesions is scarce. This work aims to describe the neuropathological findings in samples collected in deer hunted in Portugal.

#### **Materials & Methods**

For 4 years, 233 brainstem and cerebellum samples were collected from deer (97) and fallow deer (136) for routine histopathology analysis.

#### **Results**

In 15% of the samples, the diagnosis was impaired by autolysis. On the remaining samples, one choroid plexus papilloma was diagnosed. In 7.5% of cases, nonspecific-inflammatory changes were detected in the CNS, featuring a discreet perivascular lymphoplasmacytic infiltrate. A lymphoplasmacytic meningitis with rare eosinophils and histiocytes was also diagnosed, associated with nematodes’ presence in the meninges. In 20% of the cases, findings devoided or of uncertain pathological significance (no significance) were detected (neuronal lipofuscin deposits, polyglucosan bodies, neuronal hyaline inclusions, reactive astrocytes in white matter; mineralization of the vascular endothelium and melanosis in the meninges).

#### **Conclusion**

This exploratory study represented the first survey of neuropathological changes in wild cervids in Portugal, revealing mainly discrete non-specific inflammatory lesions, changes of little clinical significance, in addition to one neoplastic lesion. This approach should be expanded as an important tool to identify putative neuropathological zoonotic pathogens in the cervid population for early warning systems in the health surveillance of wildlife and humans as they are intended for consumption.