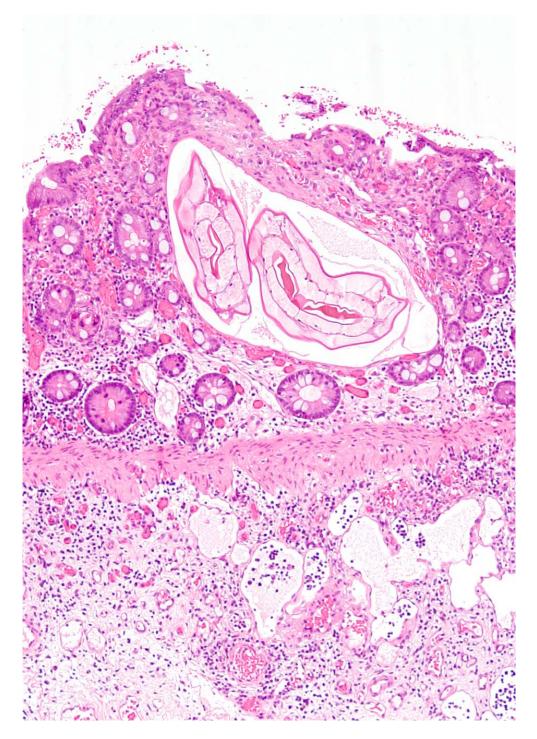


### C.L. DAVIS/S.W. THOMPSON DVM FOUNDATION

A tax-exempt, donative, publicly-supported charity For the advancemet of veterinary and comparative pathology

## THE DAVIS-THOMPSON FOUNDATION NEWSLETTER

September 2021 VOL. 51



### **INSIDE THIS ISSUE**

Congratulations to our monthly cover photograph winners: Panayiotis (Panos) Loukopoulos, Ghazanfar Abbas, Nicolas Galinelli, Jenni Bauquier, Charles Gauci, Simon Bailey, Abdul Jabbar

\*Affiliated Institution: Melbourne Veterinary School, The University of Melbourne, Werribee, Victoria, Australia

Lesion Description: Cyathostomins embedded and encysted in the colonic lamina propria of a 16-year-old, female Welsh Pony.

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### **FOUNDATION ANNOUNCEMENTS**

The Foundation would like to give a special thanks to Dr. Brad Bolon for his support and generous donation.

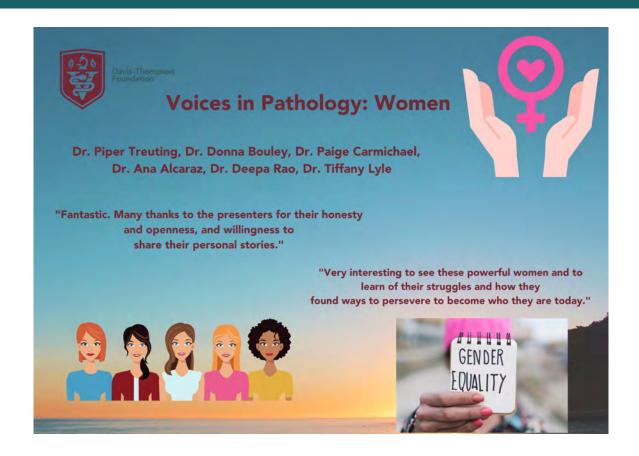
Monetary gifts greatly help the Foundation achieve its core mission of promoting the teaching of comparative pathology throughout the world.

Be sure to check out the new Davis-Thompson Foundation website at <a href="https://davisthompsonfoundation.org/">https://davisthompsonfoundation.org/</a>

- Additional information for all upcoming events!
  - Easy event registration!
    - Access Noah's Arkive!
- Test your skills with the LCPG Diagnostic Exercises!
  - And so much more!



### **SEMINAR REVIEWS**





### PATHOLOGY OF LAB ANIMALS (POLA)



2 - 6 AUGUST 2021

BY LUAN C. HENKER, UFRGS.

"Great presentations - well spoken presenters with beautiful images and concise organization of material!" "Wonderful speakers and the presentations were exceptionally well organized!"

"Amazing, I learned a lot. Lectures were wellorganized and full of important information."



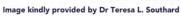






Image kindly provided by Dr Jeff Wolf

### **SEMINAR REVIEWS**



## TESTANDO SEU CONHECIMENTO EM PATOLOGIA OCULAR



**Dra RACHEL NETO** 

18 DE AGOSTO, 2021

BY LUAN C. HENKER

Neste seminário virtual, a Dra Rachel Neto compartilhou muitas informações importantes sobre anatomia, fisiologia e patologia ocular de animais domésticos e silvestres A palestra foi bastante dinâmica, com muitos quizzes e muita interação dos participantes! Participantes puderam rever ou aprender mais sobre inúmeras patologias oculares, especialmente condições menos comumente observadas na rotina anatomopatológica











### **DIAGNOSTIC EXERCISE**



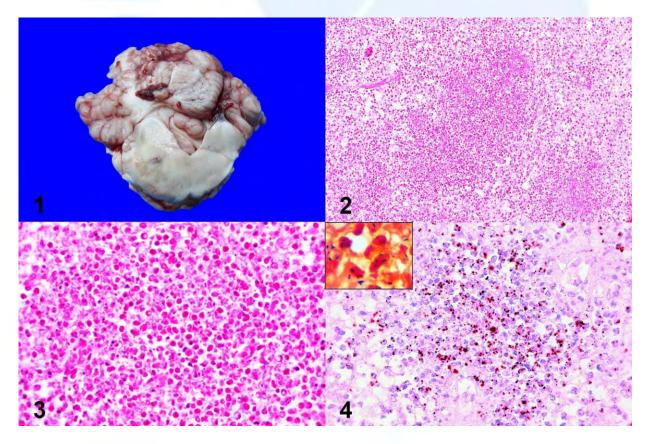
Question Sheet

Case #: 170 Month: August Year: 2021

**Contributors:** Matías A. Dorsch, DVM, MSc and Federico Giannitti<sup>1</sup>, DVM. Instituto Nacional de Investigación Agropecuaria (INIA), La Estanzuela, Colonia, Uruguay. <sup>1</sup> fgiannitti@inia.org.uy.

**Clinical History:** 4-year-old Holstein cow with a history of unilateral (right side) facial paralysis, keratitis, drooping of the right ear, head tilt, circling, stiffness of the right limbs, tremors, and recumbency.

**Necropsy Findings:** The left side of the brainstem was swollen, multiple coalescing areas of the neuroparenchyma in this region were soft, tan-brownish, and slightly depressed on cut section (malacia).



**Figure 1:** Cross section of the cerebellum and brainstem at the level of the pons depicting the lesions described as necropsy findings, caudal view. **Figure 2:** Brainstem, hematoxylin and eosin (H&E), 20x. **Figure 3:** Brainstem, H&E, 20x. **Figure 4:** Immunohistochemistry, 40x. *Inset:* Gram stain, 50x.



### **DIAGNOSTIC EXERCISE**



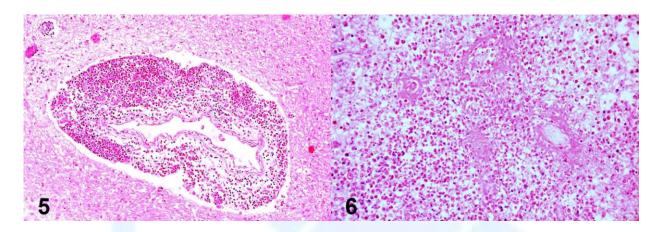


Figure 5: Brainstem, H&E, 20x. Figure 6: Brainstem, H&E, 40x.

#### Follow-up questions:

- (i) Morphologic diagnosis?
- (ii) Differential diagnosis/es?
- (iii) Etiologic diagnosis?
- (iv) cause?
- (v) Name of the disease.

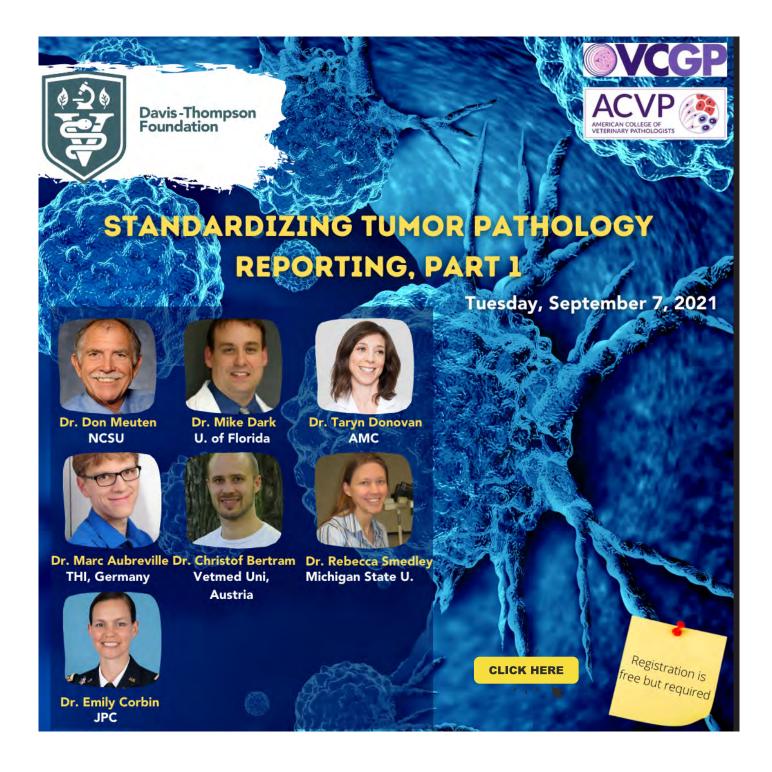
\*The Diagnostic Exercises are an initiative of the Latin Comparative Pathology Group (LCPG), the Latin American subdivision of The Davis-Thompson Foundation. These exercises are contributed by members and non-members from any country of residence. - Consider submitting an exercise! - A final document containing this material with answers and a brief discussion will be posted on the CL Davis website (http://www.cldavis.org/diagnostic\_exercises.html).

Associate Editor for this Diagnostic Exercise: Ingeborg Langohr

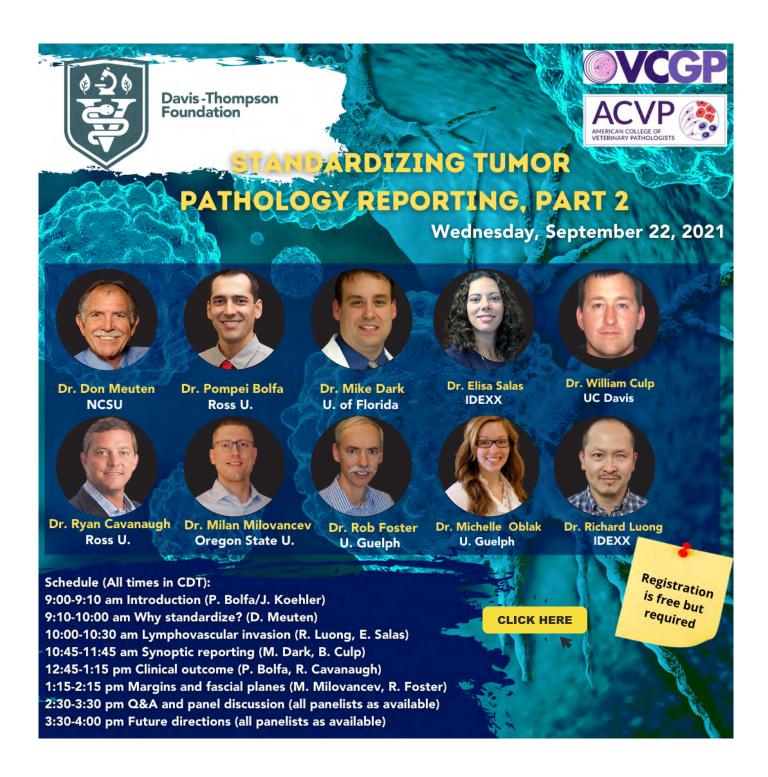
Editor-in-chief: Claudio Barros

Click here for answers

## STANDARDIZING TUMOR PATHOLOGY, PART 1



## STANDARDIZING TUMOR PATHOLOGY, PART 2

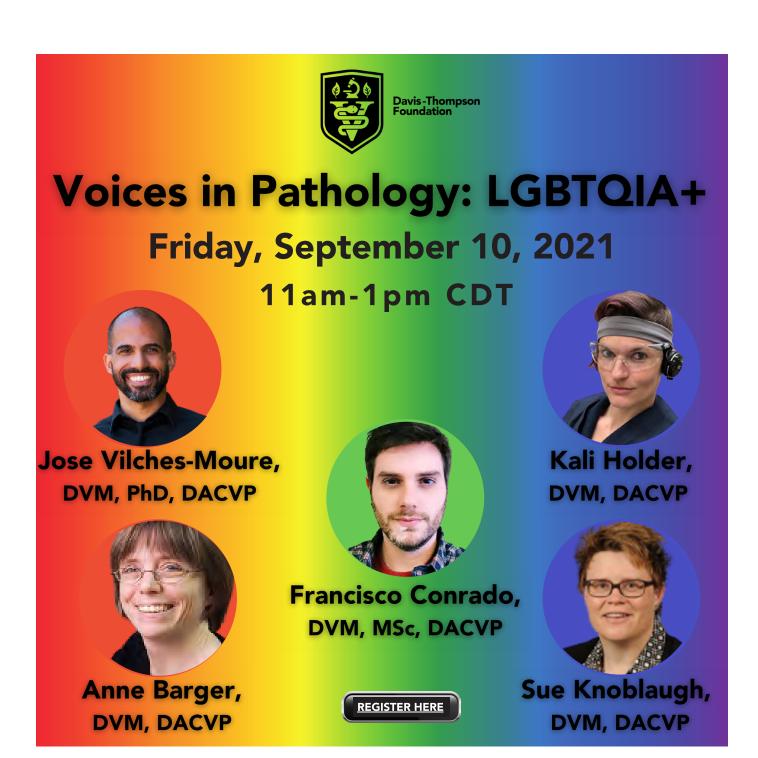


### SPANISH SEMINAR SERIES

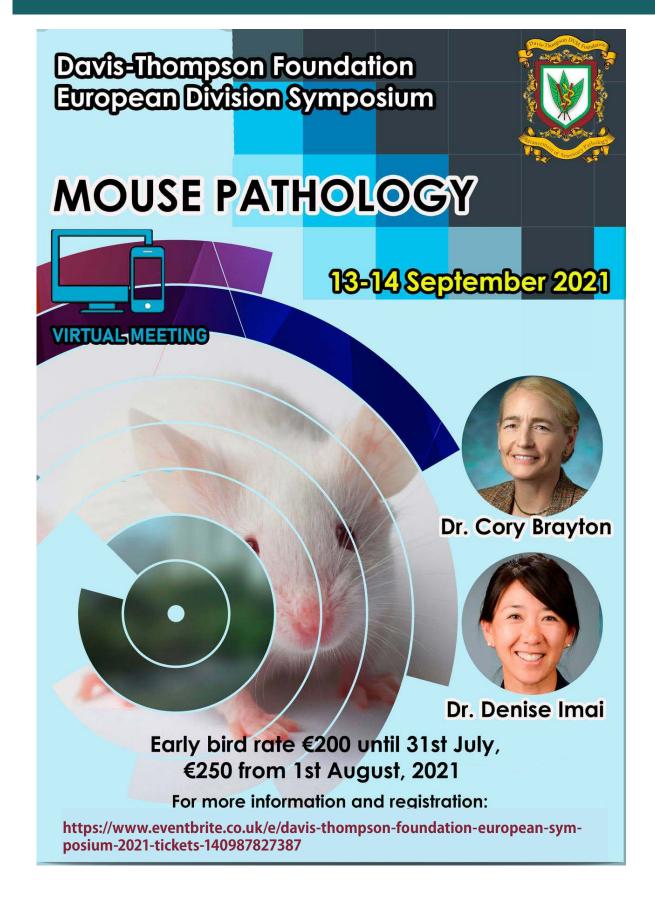


Click here to register for individual seminars

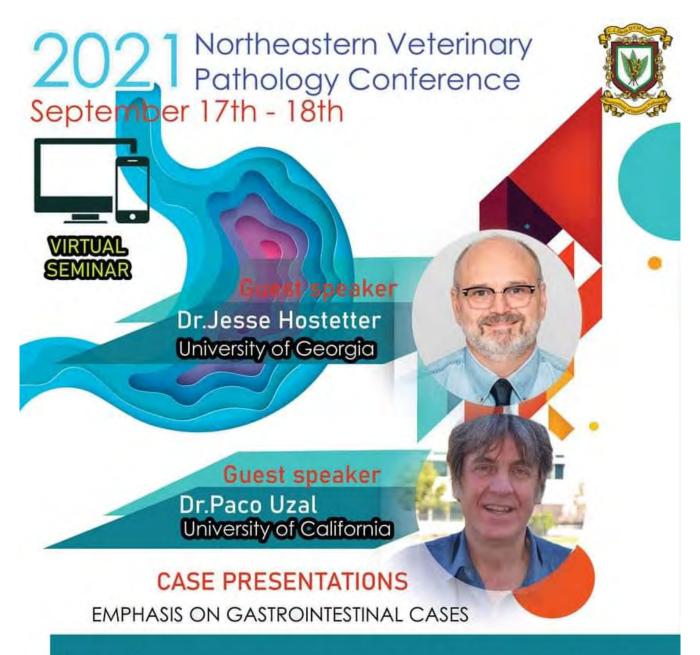
### VOICES IN PATHOLOGY: LGBTQ+



### **MOUSE PATHOLOGY**



## 2021 NORTHEASTERN VETERINARY PATHOLOGY CONFERENCE



Register at https://us02web.zoom.us/webinar/register/WN\_8E-JaPl-rQ-aMEorkEXMhMg

If you would like to present a case, please contact course director Dr. Sarah Cudd at <a href="mailto:skcudddvm@gmail.com">skcudddvm@gmail.com</a> ASAP to determine availability

### **ANIMAL FORENSICS SEMINAR**

### Free Friday Seminars

Friday, September 17, 2021 11am-12:30pm CDT



# Animal Forensics- a Veterinary Pathologist's and a Lawyer's Approach

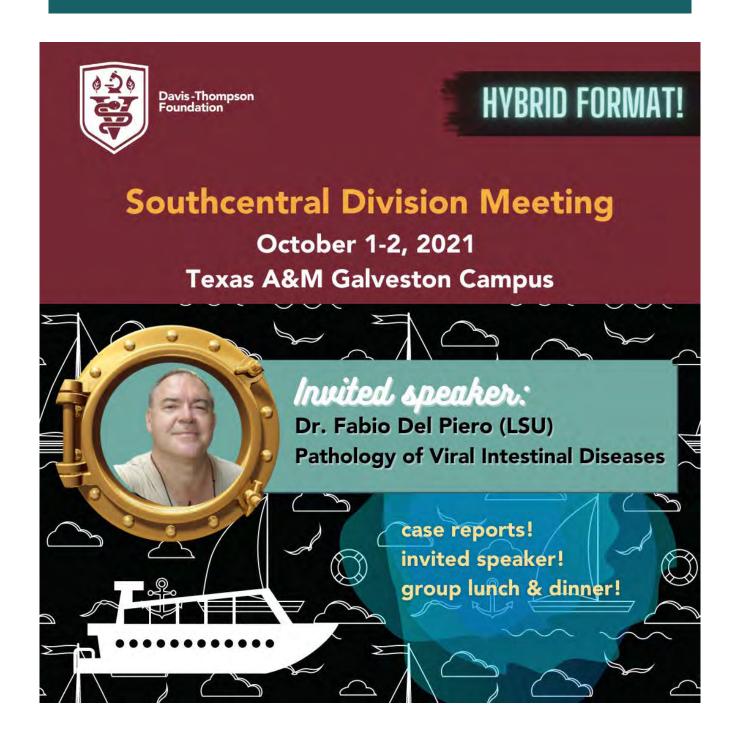


### SEMINAR SERIES IN PORTUGUESE



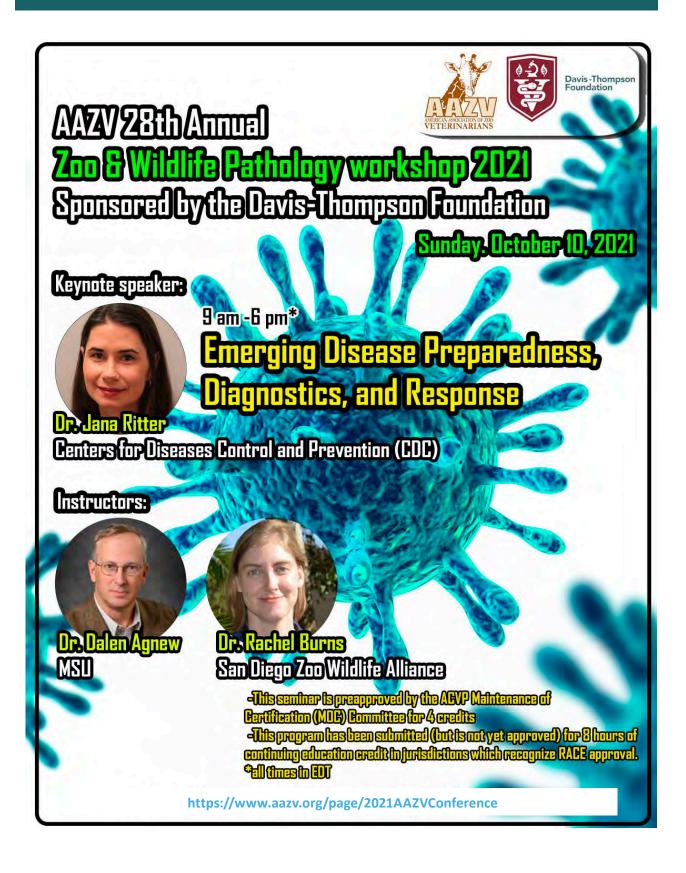
Click here to register for individual seminars

### SOUTHCENTRAL DIVISION MEETING



Click here to register

## AAZV ZOO & WILDLIFE PATHOLOGY WORKSHOP



### **ARGENTINIAN MEETING (RAPAVE)**



### **AAVLD TRANSBOUNDARY DISEASES**



### 2021 ACVP PRE-CONFERENCE WORKSHOP





#### BRITISH SOCIETY OF TOXICOLOGICAL PATHOLOGY

The 36th Annual Scientific Meeting of the BSTP –
Pathology of mice with human immune systems (HIS mice)
Wednesday 10th – Friday 12th November 2021
12,30 – 16.30 (GMT+0, London/UCT+0)

TIME TO

The 36th ASM will be held as a virtual event using Zoom on the afternoons of Wednesday 10th, Thursday 11th and Friday 12th November 2021, from 12.30 – 16.30 (GMT+0, London/UCT+0) each day.

Registration for this meeting is still open, with numbers limited to a maximum of 75 delegates - registration will close at midnight on 22nd October 2021.

The BSTP's 36th Annual Scientific Meeting will cover the topic of pathology of mice with human immune systems (HIS mice).

Immunodeficient mice reconstituted with a human immune system are increasingly used for modelling the human immune compartment in numerous preclinical applications, such as adoptive cell therapy and immuno-oncology studies. With the advent of new Advanced Therapy Medicinal Products, humanised mice are likely to become more and more a key component of efficacy and safety assessment in preclinical programmes, including GLP studies. However, limited information is available concerning the morphological aspects of human cell engraftment and the spectrum of spontaneous and experimentally-induced histopathological lesions occurring in these mice.

Working with the *Pathological Society of Great Britain and Ireland* the meeting will cover the main features of the different humanised mouse platforms; their experimental applications in drug development, oncology and gene and cell therapies; specific safety and regulatory considerations; and future promise and remaining challenges.

The Annual General Meeting of the BSTP will be held as a separate meeting on Friday 26th November 2021

- http://www.bstp.org.uk/events/bstp-annual-general-meeting/

#### Sponsorship Opportunities

As a small organisation we feel that by providing financial sponsorship for this meeting it will allow the society to continue organising high quality events for a diverse group of toxicological and experimental pathologists. For £250 your logo (with a direct link to your company) will appear on the BSTP website and on all delegate materials. Please contact the BSTP at <a href="https://doi.org/10.1007/journal.com">bstpoffice@aol.com</a> more information.

#### IMPORTANT DEADLINES

- ✓ Applications for the bursary will close at midnight on 24th September 2021
- ✓ Early bird registration closes at midnight on 30th September 2021
- ✓ Registration will close at midnight on 22nd October 2021.

So, if you are you looking for some high quality CPD and would you like to broaden your understanding on the pathology of mice with a human immune system then this is the meeting for you.

We hope to see you in November!



#### Delegate Information:

Access to the downloadable delegate materials and Zoom login information will be provided up to one week in advance of the meeting.

#### **Continuing Professional Development:**

Royal Society of Biology CPD credits will be applied for.

Approximately 8.5 hours of educational activity will be recorded on Attendance Certificates. For those delegates who wish to self-accredit for CPD, proof of attendance should be retained for this purpose.

#### Registration Fees:

Registration fees are for full attendance (3 afternoons) and no discount will be given for part attendance.

| Registration Fees                   | Early Registration Fee – up to 30th<br>September 2021 | Standard Registration Fee – after<br>30th September 2021 |
|-------------------------------------|---|--|
| BSTP Member                         | £170.00   | £210.00  |
| Non-Member                          | £220.00   | £260.00  |
| Trainee/Early Career Pathologists * | £100.00   | £140.00  |
| BSTP Member Group Fee #             | £150/person   | £190/person  |
| Non-Member Group Fee #              | £200/person   | £240/person  |

<sup>\*</sup> A letter/email from a Head of Department confirming status must accompany the registration form # 3 or more from the same company, completed registration forms should be emailed together

#### Payment Methods:

All bookings for the meeting must be paid in full by 22nd October 2021. You can pay by Bank Giro Credit/Faster Payment/Bill Payment/Bank Transfer/International Payment, or if you prefer to pay by credit card, please tick the relevant box on the registration form or contact the BSTP Secretariat for more details.

#### Cancellation:

All requests for cancellations to bookings must be received in writing by 30th September 2021. Refund requests will incur a £50 processing fee. Refund requests received after 30th September 2021 will not be processed.

#### Replacements:

Substitutions can be made at any time up to 22nd October 2021.

#### **BSTP Booking Terms and Conditions:**

To registering for this event, you must read and agree to the BSTP Booking Terms and Conditions.

By registering for this event, you are agreeing to the <u>BSTP Privacy Policy</u>. You may opt in or out of email communications from the BSTP at any time.

#### BSTP 36th ASM Timelines:

17th June 2021Registration opened24th September 2021Deadline for bursary applications30th September 2021Early registration fee endsUp to 30th September 2021Cancellations can be made

After 30th September 2021 No refund on cancellations
22nd October 2021 Registration closes

#### Other BSTP events:

The latest edition of BSTP's <u>Guide to Educational Activities</u> is available on the BSTP Website, or to find out more about other events organised by the BSTP visit <a href="http://www.bstp.org.uk/events/bstp-events/">http://www.bstp.org.uk/events/bstp-events/</a>



The 36th Annual Scientific Meeting of the BSTP –
Pathology of Mice with Human Immune Systems (HIS mice)
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Royal Society of Biology CPD credits have been applied for.

Approximately 8.5 hours of educational activity will be recorded on Attendance Certificates.

#### PROVISIONAL PROGRAMME

|               | Wednesday 10th November 2021   |
|---------------|--|
| 12.30 - 12.45 | SOCIAL BREAKOUT SESSION  |
| 12.45 - 13.00 | WELCOME AND INTRODUCTION BY THE PRESIDENT OF THE BSTP  Elizabeth McInnes   |
| DAY 1         | Generation of HIS mice: available models and standardisation   |
| 13.00 - 13.30 | HIS mice in biomedical research: Challenges and opportunities<br>Christian Muenz, University of Zurich, Switzerland                              |
| 13.30 - 14.00 | Immunodeficient mice lines optimised for humanisation: NSG, NOG<br>focus on pathology<br>Cory Brayton, Johns Hopkins University, USA             |
| 14.00 - 14.30 | Comparison of human innate and adaptive immune reconstitution across different HIS models Kourosh Saeb-Parsy, University of Cambridge, UK        |
| 14.30 - 15.00 | VIRTUAL COFFEE BREAK   |
| 15.00 - 15.30 | HIS mouse reporting standards  Janell Richardson, Taconic, USA   |
| 15.30 - 16.00 | Flow cytometry applications to investigate engraftment and immune cell response in HIS mice  Speaker to be confirmed                             |
| 16.00 - 16.30 | Multiplexing immunohistochemistry and imaging mass spectrometry applied to the human and murine immune systems  Richard Goodwin, AstraZeneca, UK |

You are advised that the programme timings, lecture title and speakers may be subject to change without notice.





|               | Thursday 11th November 2021  |
|---------------|--|
| 12.30 - 13.00 | SOCIAL BREAKOUT SESSION  |
| DAY 2         | HIS mouse pathology  |
| 13.00 - 13.30 | Graft-versus-host disease (GvHD) in NSG mice transplanted with CD34+ human<br>hematopoietic stem cells<br>Speaker to be confirmed  |
| 13.30 - 14.00 | Histopathological features of NSG-SGM3 mice<br>Laura Janke, St. Jude Children's Research Hospital, USA                             |
| 14.00 - 14.30 | GvHD in humanised mice and its use as a marker of immune stimulation in preclinical studies  Jean-Martin Lapointe, AstraZeneca, UK |
| 14.30 - 15.00 | VIRTUAL COFFEE BREAK   |
| 15.00 - 15.30 | Morphological features of GvHD in patients  Speaker to be confirmed  |
| 15.30 - 16.30 | Round table/share knowledge: Pretransplant conditioning-induced pathology<br>(chemical and radiation conditioning)                 |

|               | Friday 12th November 2021   |
|---------------|---|
| 12.30 - 13.00 | SOCIAL BREAKOUT SESSION   |
| DAY 3         | Preclinical applications of HIS mice  |
| 13.00 - 13.30 | Application of humanized mouse models in drug discovery<br>Johannes Sam, Roche, Switzerland |
| 13.30 - 14.00 | Exploring HIS mice as potential preclinical safety model<br>Sandrine Vessillier, NIBSC, UK  |
| 14.00 - 14.30 | Regulatory aspects concerning the use of HIS mice<br>Kristina Howard, FDA, USA              |
| 14.30 - 15.00 | VIRTUAL COFFEE BREAK  |
| 15.00 - 15.30 | Humanised mice in preclinical immuno-oncology<br>Janell Richardson, Taconic, USA            |
| 15.30 - 16.00 | Modelling human malignancies in vivo<br>Speaker to be confirmed                             |
| 16.00 - 16.15 | CLOSING REMARKS   |

You are advised that the programme timings, lecture title and speakers may be subject to change without notice.



### **IDEXX CASECONNEXX CORNER**

Signalment: 6-year-old, male neutered, ferret (not otherwise specified).

Source/ History: Mass on tip of tail. Has been present for 3 months, slow growth. Hairless, slightly ulcerated.

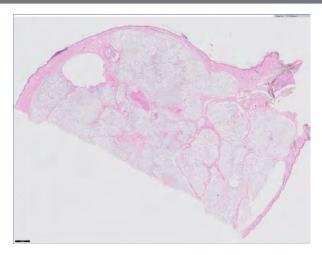


Figure 1. (1X magnification, H&E stain) Tail mass. A well-demarcated, unencapsulated, multinodular neoplasm expands the dermis and subcutis.

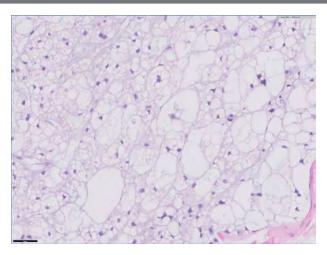


Figure 2. (40X magnification, H&E stain) Neoplastic cells are polygonal, with distinct cell borders and moderate to abundant, amphophilic to clear, vacuolated cytoplasm (physaliferous cells).

**Microscopic Description:**Expanding the subcutis and overlying dermis is a well-demarcated, unencapsulated, multinodular, expansile mass composed of neoplastic polygonal to spindloid physaliferous cells arranged in lobules and embedded within a mucinous stroma. Neoplastic cells are polygonal with distinct cell borders and moderate to abundant amphophilic to clear vacuolated cytoplasm. Nuclei are round to ovoid and often peripheralized with finely There is mild to moderate anisocytosis and anisokaryosis.

Multifocally, there are variably sized foci and islands of cartilage and variably mineralized woven and lamellar bone occasionally lined by osteoblasts and few osteoclasts in Howship's lacunae. The overlying epidermis is segmentally eroded to ulcerated and covered by a serocellular crust.

#### **Microscopic Interpretation:**

Tail: Chordoma

Mitotic count: 0 in ten high power fields (total 2.37 mm2) Vascular/lymphatic invasion: Not observed

Margin assessment: Appears completely excised with a closest proximal margin of 0.7 mm composed of fibrocollagenous connective tissue

Figure 3. (10X magnification, H&E stain) Neoplastic physaliferous cells are arranged in lobules with multifocal foci and islands of cartilage and bone.

#### Comments:

Chordomas are the most common neoplasm of the musculoskeletal system of the ferret and are thought to arise from remnants of fetal notochord. They are rarely diagnosed in other species. Chordomas are typically slow growing, locally expansile/aggressive neoplasms that arise in or adjacent to vertebra. They are most commonly seen as club-like swellings at the tip of the tail, though can occur in the cervical spinal column or rarely at sites of the spinal column. Chordomas are considered potentially malignant; however, only rare cases of local and distant skin metastases have been reported in the ferret. There is also one report of metastasis to the lung from a cervical

References: Dunn, DG. A histomorphologic and immunohistochemical study of chordoma in twenty ferrets (Mustela putorius furo). Vet Pathol.1991;28:467–473. Frohlich J and Donovan T. Cervical chordoma in a domestic ferret (Mustela putorius furo) with pulmonary metastasis. J Vet Diagn Invest. 2015;27(5)656-659; Munday JS et al. Suspected metastatic coccygeal chordoma in a ferret (Mustela putorius furo). J Vet Diagn Invest. 2004;16(5):454-8

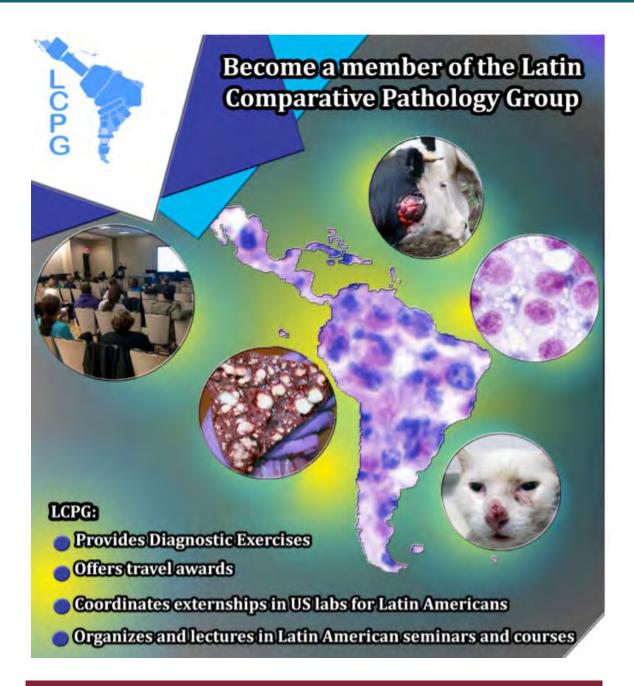
Case by Joseph Malatos, DVM, DACVP





Visit CaseConnexx.com to Register

### **MISCELLANEOUS ANNOUNCEMENTS**



#### **Membership Fees:**

\$50 - Professionals in US, Canada, and Europe

\$30 - Professionals in Latin America

\$25 - Students in US, Canada, and Europe

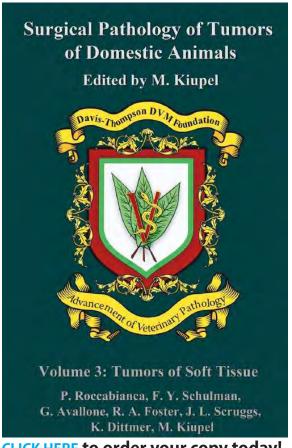
\$15 - Students in Latine America

**CLICK HERE** to learn more.

Use this link to join: https://davisthompsonfoundation.regfox.com/lcpg-membership

LCPG is the proud Latin American Division of the Davis Thompson Foundation

### **MISCELLANEOUS ANNOUNCEMENTS**



### **Davis-Thompson** Foundation Pathology Externship

Since 1980, the Davis-Thompson Foundation lab sites have hosted more than 125 veterinary students at 8 participating diagnostic laboratories. These students usually have a strong interest in pathology itself or zoo or poultry medicine that require a strong pathology background. The Foundation is always interested in having veterinary students apply for an externship and we would like to add more externship sites that do not usually have veterinary students, to help increase their interest and knowledge of pathology with some offcampus experience. For more information, contact Dr. Jim Britt, jobritt@sbcglobal.net; 501-912-

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**Davis-Thompson T-shirts!** \$20 + shipping

#### **RETIRING?**

Have slides left over from your recent slide seminar? Just looking to free up some storage space? The Foundation is looking for additional glass slides, kodachromes and other similar materials for its Correspondence Division and Study Centers. All materials should be well identified with as much accompany history and discussion as possible, as these materials are expressly used for teaching. Moreover, as the Foundation is a publicly donative charity, all donated materials are tax-deductible. For more information, please contact Dr. Bruce Williams at bruce.h.williams.dvm@gmail.com.



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