

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

A TAX-EXEMPT, DONATIVE, PUBLICLY-SUPPORTED CHARITY FOR THE ADVANCEMENT OF VETERINARY AND COMPARATIVE PATHOLOGY

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INSIDE THIS ISSUE

- Virtual Descriptive Vet Path Course 1.
- 2. The Foundation Keeps it Running
- Zoom Seminars by the Numbers 3.
- July Virtual Seminars 5.
- Diseases of Cattle 6.
- 7. Dermatopathology Seminar Review
- 8. Australian Saturday Seminars
- 9. **Diseases of Poultry**
- Pathology of Camelids Seminar Review 10.
- 11. **Black Voices in Pathology**
- Liver Injury Seminar Review 12.
- 13. <u>POLA 2020</u>
- Argentinean meeting 14.
- 15. Southcentral Division Meeting
- 16. **PNS Seminar Review**
- 17. Pathology of Wildlife Diseases
- 18. Join the LCPG
- 19. **Diagnostic Exercise**
- 20. Toxic Plants in Cattle Seminar Review 21.
- Vet Path Cognitive Errors Review
- 22. Miscellaneous
- Calendar of Upcoming Events 23.

The First Ever Virtual Descriptive Veterinary Pathology Course Was a Resounding Success!

The first ever virtual Descriptive Veterinary Pathology course, held on June 1-5, 2020, was an amazing success! Jev Koehler, Patty Pesavento, and Linden Craig did a fantastic job managing the novel logistical challenges and organizing the course for a virtual format. Other Foundation members also assisted by delivering virtual lectures and grading participant microscopic descriptions. The success of this ground-breaking event also relied on the use of digital slides for the mock microscopic exams. Through a new Foundation collaborative effort, digital slides were generously hosted by IDEXX, allowing the participants the chance to hone their descriptive skills in a virtual environment.

Thanks again to all of the Foundation members, course participants, and our comrades at IDEXX for making the first ever virtual Descriptive Veterinary Pathology course such a success!



Collage of some of our fabulous participants

The Foundation Keeps It Running



Recently I have gotten a lot of really nice emails about the good work that the Foundation is doing with our virtual seminar series and how it really is filling a void left by the cancellation of so many meetings this year.

I just want people to know that while my face may be all over it, there is absolutely no way I could do all this by myself, and there are a lot of people who deserve notice and credit.

First and foremost, our Foundation President Paco Uzal, who puts in similar long hours keeping everything running, if not smoothly, then with that appearance (and really, which is more important?) It took a lot of years to find someone that not only shared my vision, but could rearrange their schedule (yes, we all have real jobs that pay the bills), to make it a reality. Paco is incredibly devoted to international education, and he has brought the same fire with him to global education that he did to Latin American education before he became President of the entire Foundation.

There is also a great crew of young (at least younger than me) pathologists who are spearheading the "Virtual Seminar Committee" and are responsible for doing all of the heavy lifting, as there are a lot of movable parts. RACE requires applications to go in on time, evaluations to be created, and certificates to go out on time. We need moderators for the seminars, ideas for the seminars, people to corral speakers. They brought a much more advanced online evaluation system to the Foundation (why did I wait so long?). Even the videos have to be edited and cleaned up (blank spaces taken off the front and end and if you see some of the ones from yesterday, we now have a cool intro and watermark.

Here are the people who make me look good when I upload the videos and flyers. I am putting some of the things they do beside their name so when you see their work, you will think of them (but everyone pitches in to get everything done and some are so good at everything, they haven't found a niche!):

Jeann Leal – Graphic designer Laura Bassel – Survey Monkey Rafaela De Negri – Moderator Laura Setyo – Moderator Sophia Rosales Martinez – Moderator Rachel Neto – Newsletter reviews, behind the scenes assistance Whitney Zoll – RACE applications, certificate distribution Neha Mishra – Certificates Brigid Troan – Moderator Marie-Odile Benoit-Biancamo – Video editing Will O'Neill – Video editing Jim Britt – RACE credits

Thank you to all these folks - you deserve all the credit!

Zoom seminars, by the numbers

Between April 1st and June 22nd, the DTF has hosted **12 free Friday seminars** (Box 1) and 3 Tuesday day seminars (Box 2) providing **8 hours of RACE credits each**. This means a total of **42 hours of CE** has been made available to help the foundation's mission to "further the international advancement of education in veterinary and comparative pathology."

The virtual attendance at each of these Zoom sessions has been phenomenal, with numerous additional views on the posted YouTube videos. Combining the registrants for the live Zoom sessions with the number of views on YouTube for each of the posted lectures, there have been a total of **24,159 views** of these seminars! We have been lucky to have such a knowledgeable roster of pathologists volunteering to put together these presentations to share with our audience. The feedback we have received on these seminars has been overwhelmingly positive. We hope that the range of topics covered in these seminars span the variety of experiences in pathology practice and are open to your suggestions for both topics and potential speakers. I know that I greatly enjoy watching all these seminars, even or especially the ones that are far outside my realm of experience.

The need for RACE credits and MOC aside, the attendance at these seminars demonstrates how much pathologists enjoy learning and viewing others' images and materials. One positive thing to come from the current covid-19 pandemic is that it has encouraged new strategies for wider dissemination of knowledge and expertise. We plan to continue these seminars for the foreseeable future and hope they continue to be of interest to our members.

Davis Thompson Activities April 1 st to June 22 nd , 2020
3 Tuesday day seminars (8 hours of RACE credits each)
713 Registrants for live seminar
12 Free Friday seminars (1.5 hours each)
6,686 Live Friday seminar Zoom registrants
16,760 YouTube views

Date	Friday seminar topic	Seminar registrants	YouTube views
April 3	Update on enteric clostridial diseases	127	2024
April 10	Non-clinical safety assessment in human embryo-derived stem cell-based therapies: the long path for type I diabetes and stem cells	130	160
May 17	Respiratory viral diseases in domestic mammals. Scary monsters at least as bad as SARS-Covid 2	614	1649
May 24	Prognostic evaluation of canine cutaneous mast cell tumors	708	820
May 1	Freshwater fish pathology	927	1014
May 8	Stories and cases from zoos and aquaria	720	420
May 15	Experimental models of equine laminitis: a steady path forward	89	
May 22	My Favorite Avian Diseases	863	1512
May 29	Pathology of immune-mediated drug-induced liver injury in immuno-oncology checkpoint inhibitor combination therapy	396	
June 5	Cognitive errors in veterinary diagnostic pathology: why we make mistakes and how to mitigate the risk	912	1612
June 12	Tumors of the peripheral nervous system	683	790
June 19	Pathology of camelids	517	328
Total	12 free Friday seminars	6686	10329

Date	Seminar topic	Day seminar registrants	Section Topic	YouTube views	
May 12	Equine diseases	170	Equine ophthalmic pathology		602
			Pathology of the equine alimentary tract	493	
			Pathology of the equine nervous system	747	
			Musculoskeletal injuries of racehorses	448	
May 26	Dermato- pathology	322	Interface dermatitis alopecia	622	
			Expanding differential diagnoses for	555	
			dermatopathologic lesions		
			Dermatitis in domestic animals – patterns, problems, pairing	590	
			Skin pigmentation and comparative pathology	418	
June 9	Diseases of aquatic and zoo animals	221	Diseases of aquatic birds	620	
			Diseases of invertebrates	522	
			Diseases of marine mammals	416	
			Diseases of fish	398	
Total		713	24 hours of RACE CE	6431	





Davis-Thompson Foundation Virtual Day-Seminars

Registration fee: \$50

Diseases of Cattle Tuesday, 14 July



Besteettlepethologytothe thetyeerofrostratellite

Dr. Donal O'Toole Wyoming State Veterinary Laboratory, University of Wyoming 7-9 am*



Dr. Robert Moeller Jr. UC Davis 9:30-11:30 am

Diseases of the dainy calf



Dr. Claus Buergelt University of Florida 12:30-2:30 pm

Reproductive Pathology (with emphasis on abortion diseases)



Dr. John Edwards Texas A&M University 3-5 pm

Diseases of the forestomachs and abomasum

-Utils seminar is preapproved by the AEVP Maintenance of Certification (XDF) Committee for 1 credit -Utils program has been submitted (but is not yet approved) for 8 hours of continuing education credit in jurisdictions which recognize RABE approval *sell times in FST

For more information and registration:

https://us02web.zoom.us/webinar/register/WN_DMbs3o6VSWS7JqlE1pkUKA

Dermatopathology Seminar Review

By Rachel Neto, DVM, MS, DACVP

We started that Tuesday (5/26/20) morning really strong with the incredible Dermatopathology seminar, once again organized with excellence by the Foundation. Needless to say that, being part of the 300-plus registered participants, excitement and high expectations were abounding the day before. And... wow! All speakers (Drs. Charles Bradley, Keith Linder, Elizabeth Mauldin, and Verena Affolter) delivered phenomenal presentations that went above and beyond all expectations.

We began reviewing all possible patterns of dermatitis, with focus on dogs and cats, all covered by succinct bullet points, high quality photomicrographs to exemplify each case, as well as the calm and collected diction from Dr. Bradley (University of Pennsylvania). Discussion about the often problematic nonspecific chronic perivascular dermatitis and how important the pathologist-clinician communication bridge is for the diagnosis of canine atopic dermatitis was very welcome! Among many other reviews of inflammation patterns, covering the subtle details of vasculitides and vasculopathies, such as phlebitis in cases of infection, septicemia or hypersensitity, or small vessel vasculitis in drug reactions, photo-activated/aggravated lesions, etc was particularly helpful since these cases tend to be of a challenging diagnosis.

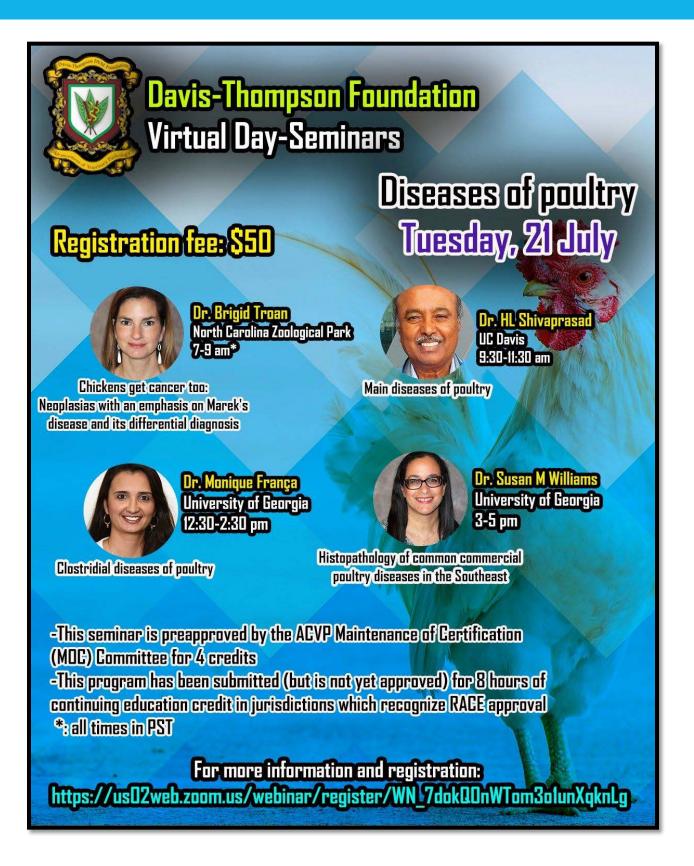
Dr. Linder (NC State University) followed with an extraordinary genetics-focused presentation on skin pigmentation and comparative pathology. This was certainly a gem! Many conditions were covered and, given the explanation of the genetic bases and where things could go wrong during embryology, we could *understand* those phenomena/entities. For instance, piebaldism (commonly known as "white marks") due to abnormal migration of melanoblasts from the neural crest and how that translates into the markings we see every single day either on the necropsy floor, by looking at a regular patient, or at our family's pet. Another quite interesting theme was the Waardenburg syndrome and what it has to deal with merle dogs or equine colonic aganglionosis. Also, why gray horses are prone to developing cutaneous melanomas? Dr. Linder brilliantly explained it!

After the lunch break, Dr. Mauldin (University of Pennsylvania) addressed some differential diagnoses of the common and somewhat nonspecific findings seen in dermatopathology routine, added by valuable tips on how to collect ideal punch samples, how to optimize your microscopic interpretation by coupling with gross images, and the clinician perspective of workup in cases of atopic dermatitis. We then finished this section with a thorough (and quite intriguing!) collection of canine seborrhea history. The often confusing and heterogeneous information published throughout the decades underscored how we, as a veterinary community, are always evolving based on scientific studies.

Dr. Affolter (UC Davis) finished strong on the essentials of interface / cytotoxic dermatitis, the proper terminologies, and pathogenesis involved. The discussion on dyskeratosis versus apoptosis in equivocal cases was also important to avoid overinterpretation in certain samples. A review of non-inflammatory alopecia also helped refresh the main differentials, clinical correlation and subtle details particular to a specific condition.

We all certainly learned quite a lot, and I hope to merge this precious information into future cases and be less apprehensive when it comes dermatopathology!



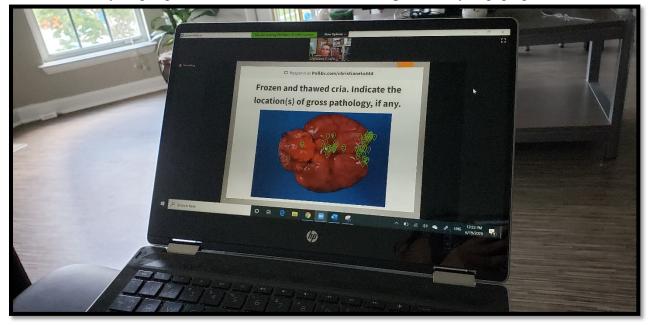


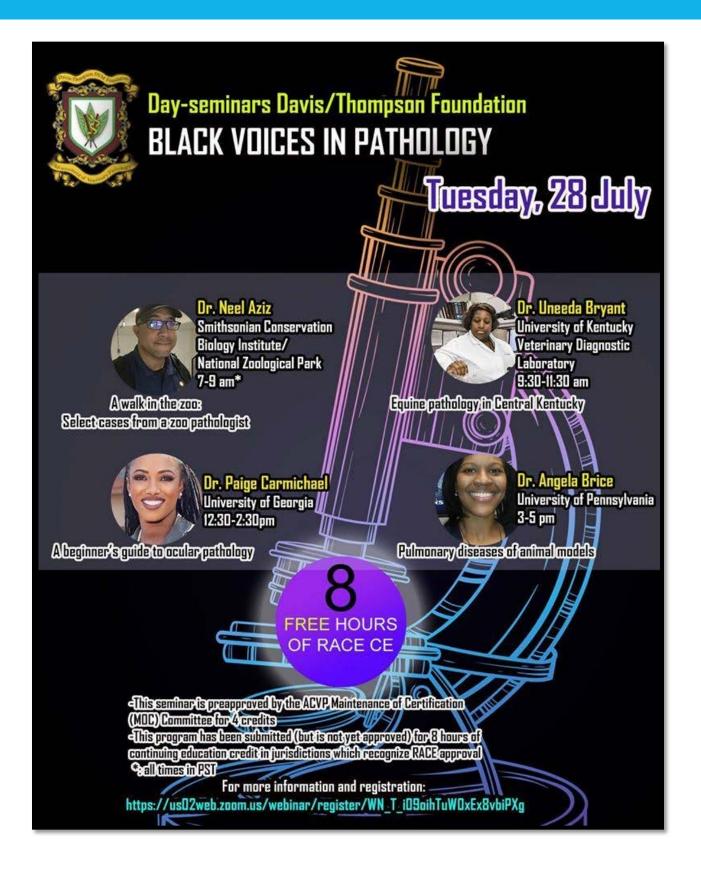
Pathology of Camelids Seminar Review

By Rachel Neto, DVM, MS, DACVP

Dr. Löhr's presentation already started in a quite pleasantly dynamic fashion! With the use of a technological and interactive poll platform, she first scanned the audience, including where most of us were (geographically), and our overall level of interest and of confidence in pathology of camelids. The genius combination of short and sweet topics on the most relevant diseases and quizzes in between kept the adrenalin and attention going throughout that 1.5h of presentation. I can certainly speak for many of us attendees that time basically flew with this interactive approach! A very useful portion of this lecture was devoted to show (or remind) us what is the normal anatomy and expected findings in alpacas and llamas, like the linear fissures in compartment 3 (not ulcers! Will carefully re-check those in my next dead – and hopefully not autolyzed - camelid). The most prevalent and relevant topics on organs sytems were discussed, illustrated by beautiful gross and histologic pictures. Quite interesting, personally, was the discussion of how relatively common congenital anomalies are present in these animals (something we would patiently wait for years to see in a regular domestic animal). Also... who would thought that camelids would be a "hybrid" between horses and ruminants when it comes to anatomy and diseases! At the end of this -sadly too fast – webinar, Dr. Löhr gave us another chance to re-answer quizzes and boost our confidence to the roof! Thank you Dr. Löhr, that was very kind of you!

One of the (many) highlights of this webinar: the interactive polls! Very engaging and effective!

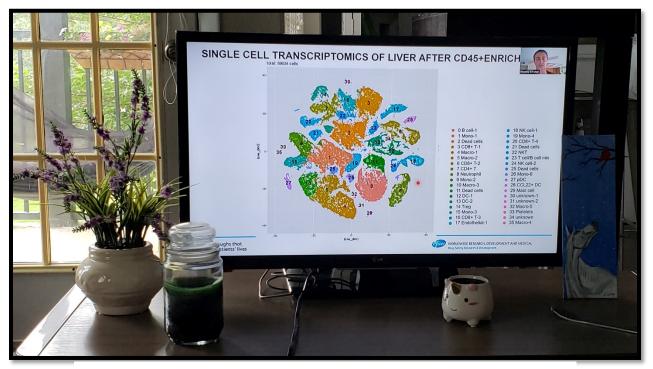




Review of "Pathology of immune-mediated drug-induced liver injury in immuno-oncology checkpoint inhibitor combination therapy"

By Rachel Neto, DVM, MS, DACVP

Just based on the title of that Friday's seminar, one would deem this to be an overly complex and hard to digest topic. However, Dr. Tim Affolter (Pfizer Drug Safety Research and Development), after a soft and amusing introduction (even including anime references!), delivered a smooth and interesting talk on the potential pitfalls of immuno-oncology drug combinations. Being such a hot topic as novel therapeutic approaches in cancer research, checkpoint inhibitors (CPIs) bear great potential. However, as biology is quite complicated, the immune system may suffer consequences, manifesting as adverse events, which are as important to take into consideration for a safer evolution in this field. Among the adverse events, inflammation of the liver, pancreas, lungs and heart were covered in this talk. And it was quite fascinating to witness the amount of work, data, and team effort involved when interpreting the studies, like the importance of pathologists aiding computational biologists clarifying data from single cell transcriptomics. And one of the major factors involved in all this: T cells (of course!) and their clonal expansion in some instances. Biology is fascinating and I'm so glad there are amazing researches on decoding this complex world!



There's always a first time for everything – Getting acquainted with t-distributed stochastic neighbor embedding (tSNE)

POLA 2020 3-7 August 2020 VIRTUAL SEMINAR THROUGH ZOOM TUITION: \$300 Foundation members Pathology of the Mouse Pathology of the Rat \$400 **Non-members** Pathology of Non-Human Primates Pathology of Mini-Pigs Pathology of the Rabbit Pathology of the Ferret Pathology of Laboratory Fish Pathology of Guinea Pigs, Hamsters and Gerbils Pathology of the Ferret Mock Exam The seminar is pre-approved by the AGVP MDC committee for 2 credits per half day attended. This course has been submitted (but not approved) for 32 hours of continuing education in jurisdictions which recognize RACE approval. **Register at:** https://davisthompsonfoundation.regfox.com/2



July 2020



The mysterious world of the peripheral nerve

A Participant's Review of Tumours of the Peripheral Nervous System By Laura Setyo BVSc (Hons), MRCVS, MANZCVS (Veterinary Pathology), Diplomate ACVP

Dr. Kevin Woolard (University of California, Davis)'s presentation may have been on the peripheral nervous system, but it was the central nervous system that he truly got firing during his Friday seminar on the 12th of June, entititled "Tumours of the Peripheral Nervous System." The captivated audience members were refreshed on peripheral nervous system structure and the genetics of nerve sheath tumours (NSTs), before we dove in to meet each member of the NST family personally.

Fun facts that I learned:

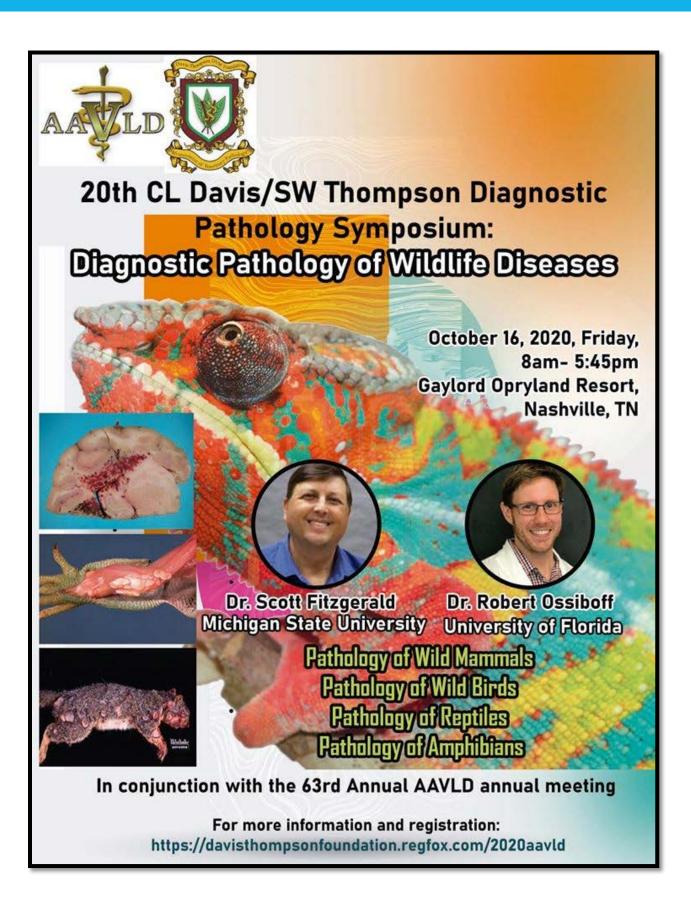
- PNSTs are the Kim Kardashians of the STS world; glamorous and in a world of their own - don't you dare get them confused with the other Kardashians (i.e. STSs)!
- It's important to distinguish schwannomas from

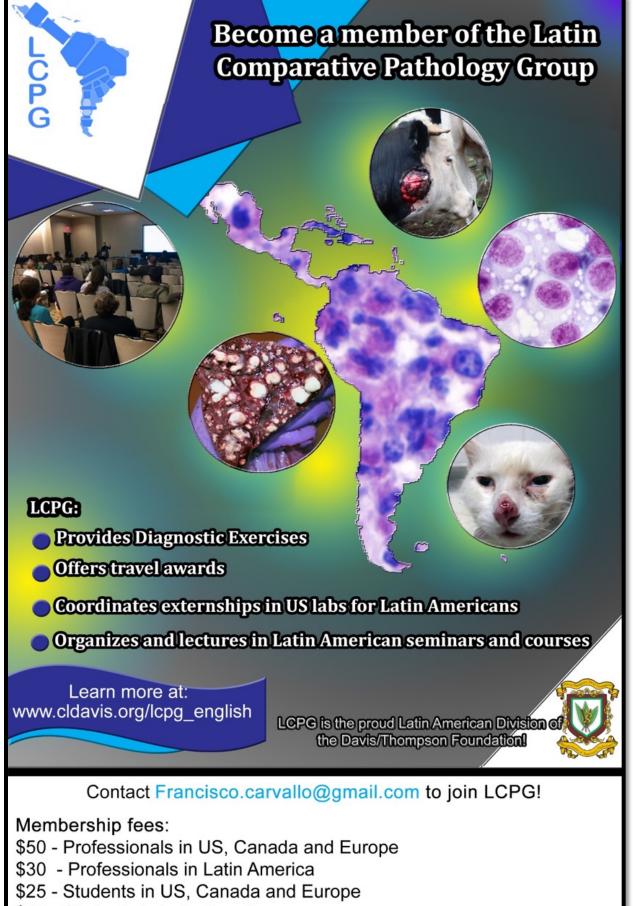
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malignant NSTs, which exhibit invasion by punching through the endoneurium, perineurium, and epineurium.

3) Sox10 knocks our socks off when it comes to neural crest differentiation (laminin helps too).

Thanks to Dr. Kevin Woolard for an insightful and entertaining talk. I leave with an education in knowing how to tell my schwannomas from neurofibromas, hyperchromatic Antoni Type A's from laidback Antoni Type B's, and Verocay bodies from nuclear palisading.





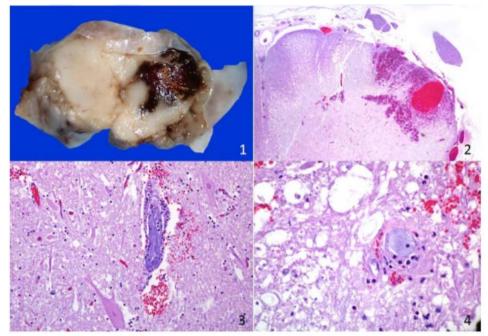
\$15 - Students in Latin America



Contributor: Francisco R Carvallo, MV, DSc, Dipl. ACVP. – California Animal Health and Food Safety Laboratory, San Bernardino branch. 105 W Central Ave, San Bernardino, CA 92408.

Clinical History: A 15-year-old male Potbelly pig had a history of loss of control of the back legs, not being able to empty the bladder, and constipation. Due to poor prognosis and no response to treatment, the pig was euthanized and submitted for necropsy.

Macroscopic Exam: The carcass was in good body condition. The pressure points of the skin of the hind limbs had focal areas of congestion and hemorrhages. The trachea contained small amounts of white stable foam. The lungs were diffusely red and wet. In the abdomen, there were approximately 500 ml of transparent fluid. The urinary bladder was markedly distended and had focal hemorrhages along the serosa. The cecum, colon and rectum were dilated with firm pelletized feces and the mucosa was congested with a reticular pattern. Other internal organs were unremarkable. The brain and spinal cord were removed and analyzed. Mild degeneration and protrusion of few intervertebral discs were identified in the lumbar segment.



Follow Up Questions: Morphologic diagnosis, cause, and name the condition.

Answers and more info here!

*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!

The pathology of selected diseases caused by toxic plants in cattle with Dr. Claudio Barros

By Laura Bassel, DVM, PhD, DACVP



On June 26th, Dr. Barros shared his knowledge and experience withtoxic plants in ruminants. Few pathologists have done over 300 necropsies on Senecia toxicity alone! He has a wealth of experience and the images to back it up. Dr. Barros jumped right into a case discussion of Vicia villosa (hairy vetch) toxicosis with some fantastic live animal, plant, and gross and histologic images and an interesting discussion of the case approach including a visit to the farm to determine which toxic plants were present. For any House MD fans, the TV doctor was not the first to realize the value of offsite visits to identify the cause of disease. Similar detailed discussions followed for each of Senecio spp. (ragwort), Pteridium

arachnoideum (brackenfern), Ateleia glazioviana, Senna occidentalis (coffee senna) with more great images. Finally, Dr. Barros answered the large number of questions posed by the participants. This lecture is an incredible resource for veterinary pathologists, clinicians, residents and veterinary students. By focusing on a few of the most important diseases, Dr. Barros was able to paint a complete picture of the clinical presentation and pathological findings for these toxicities.

Dr. Barros also provided a companion document summarizing the material presented in the lecture with references to the relevant slides. This document is available at:

http://www.cldavis.org/PDFs/LCPG/LCPG_TOXIC%20PLANTS%20CBarros.pdf

What can go wrong when we use our brains and other useful lessons

A Participant's Review of Cognitive Errors in Veterinary Diagnostic Pathology By Laura Setyo BVSc (Hons), MRCVS, MANZCVS (Veterinary Pathology), Diplomate ACVP

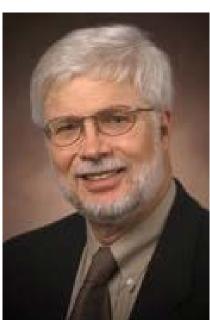
Fridays are a joy for many reasons – the last work day of the week, the start of your weekend, the chance to sleep in on a lazy Saturday morning, but, most importantly, the time for another fantastic free Friday seminar by the C.L. Davis-Thompson Foundation! The 5th of June brought a treat in the form of Dr. Paul Stromberg's (The Ohio State University) seminar, "Cognitive Errors in Veterinary Diagnostic Pathology." We all know the mind can be a bit of a trap and Dr. Paul Stromberg was here to teach us all the tricks of

recognising our cognitive biases and what to do about it.

He opens with some pertinent facts: incredibly, 1 in 5 diagnoses by human radiologists are incorrect! Why? Because of the process of perception and analysis. It's a mind-blowing statistic which, like the rest of the seminar, provides much food for thought.

Ultimately, the key take-home messages for me were:

 There are variations of any prototype – think of the quintessential normal distribution of probability theory.



- 2) Patterns of different disease entities may overlap, which is why total patient evaluation and "framing" is crucial.
- 3) Cognitive biases that distort our thinking and influence our capabilities include confirmation biases, anchoring, the availability heuristic, zebra retreat, diagnosis momentum and search satisfaction.

A timeless seminar that reminds us never to take a "Gestalt diagnosis" for granted.

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.

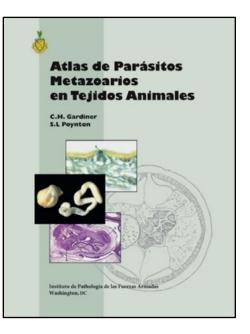
Davis-Thompson Foundation Pathology Externship

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 off-campus experience. For more information, contact Dr. Jim Britt, jobritt@sbcglobal.net; 501-912-1449.

Did you know?

The "An Atlas of Metazoan Parasites in Animal Tissues" by Gardiner and Poynton is available on line? ...and **in Spanish !!!**

Check it out here: <u>http://cldavis.org/PDFs/atlas_esp.pdf</u>



CALENDAR FOR UPCOMING EVENTS 2020

North America								
Country	Course	Date	Venue	Contact				
USA	POLA 2020	August 3-7	VIRTUAL	Robert Kim robkkim@gmail.com				
	30 Annual Southcentral Division Meeting	October 2-3	Galveston, TX	Jim Britt, Ed Dick jobritt@sbcglobal.net				
	20th Annual Diagnostic Pathology Seminar-AAVLD	October 16	Nashville, TN	Matti Kiupel kiupel@msu.edu				
	ACVP Pre-Conference workshop	October (TBD)	VIRTUAL Details TBD	Jennifer Chapman chapmanjl@verizon.net				
	Free Friday Seminars	Weekly: through December	VIRTUAL	Bruce Williams bruce.h.williams.dvm@gmail.com Paco Uzal fauzal@ucdavis.edu				
	Tuesday Day Seminars	Every second or fourth week: through December	VIRTUAL	Bruce Williams bruce.h.williams.dvm@gmail.com Paco Uzal fauzal@ucdavis.edu				
	·	Ocea	nia					
Country	Course	Date	Venue	Contact				
Australia	Saturday seminars	Monthly: August through November	VIRTUAL	Tony Ross tony.rossvetpath@hotmail.com Hanna Bender hanbender@gmail.com				
		Latin A	merica					
Country	Course	Date	Venue	Contact				
Argentina	13th Argentinean Seminar	September 2	VIRTUAL	Alejandra Quiroga maquiroga.unlp@gmail.com				
Chile	Ruminant Symposium	August 15 or 16 (TBD)	VIRTUAL	Carlos Flores flores.carlos.vet@gmail.com				
Mexico	2 st Mexican Seminar	TBD	Universidad Nacional Autonoma de Mexico, Mexico City	Laura Romero Romero lromeror@unam.mx				
Uruguay	6 th Uruguayan Seminar	August 31	VIRTUAL	José Manuel Verdes jmverdes@fvet.edu.uy				