

66th Annual Meeting of the AAVP – Conference Information

Message from the Program Committee



*Dr. Martin Nielsen
President-Elect and
Program Chair*

We live in challenging times and organizing conferences has not gotten any easier. As you all know, we organized the first virtual annual meeting in AAVP history in 2020, and we learned a lot from that experience. Moving towards a post-pandemic era, we decided to organize the 66th AAVP Annual Meeting in a hybrid format, which will be another new experience to all of us. Hybrid format conferences are here to stay, and we can all use this year as an opportunity to gather valuable experience with this format and start thinking about how we want our Annual Meeting to look like in the future.

The hybrid format ensures that those of us, who are able and willing, can attend the meeting in person and enjoy sessions and socials in a traditional format. Similar to last year, all plenaries, sponsored talks, short oral presentations and poster presentations can be viewed on the online meeting widget. We will keep all content available on the widget for a duration of two months, after which it will be

taken down. Different from last year's meeting, we are also offering the *Attendify* meeting app. This tool will make it much easier to navigate the meeting and view presentations, whether you are attending virtually or in person, and it will help facilitate communication and interaction between conference attendees, regardless of where they are situated. All presentations can be viewed in the *Attendify* app, which will further increase reach and engagement. Given the complexity of having hybrid, virtual, and in-person programming, we strongly encourage everyone to download and use the app, as it will significantly enrich our conference experience.

Now to the program. We will follow our traditional Saturday afternoon to Tuesday morning outline. Each day will have a block of hybrid programming, which can be attended live by everyone. We have kept these items together in one block on each day to make it easier for those of you attending remotely to join at the scheduled time and enjoy that day's hybrid programming in one go. For those attending in person, we have set up traditional podium abstract sessions with the usual 12 minutes plus 3 minutes for questions allotted to each presentation. Poster sessions will be virtual only. To ease the navigation of the program, we have highlighted all hybrid session in yellow, and all the in-person sessions in blue. The in-person program also offers the traditional sponsored evening social events and two sponsored luncheons. A big thank you to all our sponsors for stepping up again this year and supporting the AAVP during these so challenging and unusual times.

On Friday, June 18th, 2021, the Executive Board and all of the committee chairs will meet virtually, to summarize and evaluate our association's achievements in the past year, address issues and prepare for the year to come.

On Saturday, June 19th, we begin the conference. Please note that all times are scheduled as US EDT, so please account for this, if you are attending remotely in a different time zone. At noon, the students will host their usual meet and greet session. This meeting will be hybrid, so all students can attend. Lunch will be sponsored by Virbac and served for those attending in person. At 2pm, we have our opening hybrid plenary session with the theme of "Current Challenges and the Avenues Ahead". First Dr. Matthew Denwood from the University of Copenhagen will give a presentation on statistical challenges with parasitology data and what to do about them. Then Dr. Erik Andersen from Northwestern University will give a summary on some of his work with unravelling genetic mechanisms behind drug resistance in nematodes. In the second hybrid session of the day, we will celebrate our three award winners, who will each give a 30-minute presentation. The first speaker is this year's recipient of the AAVP-Merck Animal Health Outstanding Graduate Student Award, Jeffrey Gruntmeier. He will be followed by Dr. Andrew Peregrine, who is the 2021 recipient of the AAVP-Boehringer-Ingelheim Distinguished Veterinary Parasitologist Award. Last but not least, we will celebrate Dr.

Michael Yabsley, who has been awarded the AAVP-William C. Campbell One-Health Award. For in-person attendees, we will end Saturday's program with the Elanco Opening Night Social Event.

On Sunday, June 20th, the in-person program will feature traditional abstract sessions organized by themes and topics. The hybrid program will begin at 12.15pm with a Zoetis sponsored session, where Dr. Yoko Nagamori will give a presentation about a novel parasite fecal egg counting technology. Lunch will be provided to those attending in person. This will be followed by a panel discussion session organized by our amazing AAVP student representatives Kathryn Duncan and Julie Thompson. The panel will feature three scientific journal editors from within our membership and will focus on tips and guidance for preparing manuscripts for submission. The last hybrid session of the day will be a Boehringer Ingelheim sponsored session, where Dr. Ray Kaplan will give a presentation about the grave status of multiple anthelmintic resistance in canine hookworms. After this, the afternoon will offer more in-person abstract sessions, and we will end the day with the Boehringer Ingelheim Sunday Night Social.

Monday, June 21st will start with another in-person abstract session. The hybrid program will begin at 10.30 with the AAVP Business Meeting. This will be followed by a Merck Animal Health sponsored session, where Dr. Robert Lavan will give a presentation about flea and tick treatment behavior among dog owners. Lunch will be provided to those attending in person. The last hybrid session of the day is an Elanco-sponsored session, where Dr. Brian Herrin will give a presentation about the effects of lotilaner on Lone Star Ticks. Following this, the afternoon will feature more in-person sessions and the students will have another hybrid meeting electing their representative for the executive board for the next two years. We end the in-person program of the day with the Elanco Monday Night Social.

Tuesday, June 22nd will feature the traditional President's Symposium and we have two exciting speakers lined up. First, Dr. Jocelyn Poissant from University of Calgary will give a presentation about his work with a unique feral equine population on Sable Island in Canada. Then, Dr. Michael Kimber from Iowa State University will give a presentation on nematode extracellular vesicles and the role that they play. The last session of the conference will be the traditional AAVP-NCVP Parasite Clicker Case Discussions hosted by Drs. Gui Verocai and Mani Lejeune.

On Tuesday, June 22nd, following the conference, our hard-working student representatives, Kathryn Duncan and Julie Thompson, are leading a student trip to the University of Kentucky Maine Chance Farm, where we will be meeting the two historic equine parasitology research herds that were both established in the 1970s and have been used in countless research studies over the decades. For any details on this trip or any other student activities during the meeting, please contact Dr. Julie Thompson (jmthompson2961@gmail.com), or Dr. Kathryn Duncan (katdunc@ostatemail.okstate.edu).

The program committee, Drs. Doug Carithers, Antoinette Marsh, Mason Reichard, Adriano Vatta, Al Marchiondo, Kathryn Duncan, Julie Thompson, and I have aimed to create a meaningful meeting experience for everyone attending and we look forward to hosting everyone in person or online. A big shout out to Adriano for sorting out registrations, contracts and all finances associated with the conference. Al deserves a huge thank-you for always keeping us organized and on track, and for putting together the proceedings again this year. Serving on the executive board would be so much harder without Al and Adriano! Also, a big thank you to our conference partners; Omnipress, Encore Global, and the Downtown Lexington Hilton Hotel. Organizing this meeting has required a lot of coordination between these entities, and everyone has shown great flexibility and willingness to get the hybrid format to work.

Last but not least, many thanks to all of you who have submitted abstracts and registered for this meeting. The Annual AAVP Meeting remains to be the most important activity of our association and we sincerely appreciate your continued commitment.

Dr. Martin Nielsen
AAVP President-Elect and 2021 Program Chair

Annual Meeting Daily Program

2021 AAVP PROGRAM HYBRID MEETING (All times US Eastern Daylight Saving Time)

Friday, June 18, 2021	
10.00-14.00	IN-PERSON CONFERENCE REGISTRATION Room: Top of escalator
14.00-16.00	AAVP Executive Committee Meeting <i>All AAVP officers and committee chairs please plan to attend</i> Room: Triple Crown Room
Saturday June 19, 2021	
12.30-14.00	AAVP Student Member Meet and Greet Luncheon – All Students Please Attend Sponsored by Virbac Room: Magnolia Room and online
12.00-17.00	IN-PERSON CONFERENCE REGISTRATION Room: Top of escalator
13.15-14.00	Break (no refreshments)
14.00-18.30	PLENARY SESSION: Current Challenges and the Avenues Ahead Room: Grand Kentucky Ballroom and online Moderator: Martin Nielsen
14.00-14.15	Opening remarks AAVP President: Doug Carithers AAVP President-Elect and Program Chair: Martin Nielsen
14.15-16.15	1. Problems with parasitology data and what to do about them Matthew Denwood (45 mins) <i>University of Copenhagen</i> 2. The genetics of resistance in free-living and parasitic nematodes Erik Andersen (45 mins) <i>Northwestern University</i>
16.15-16.45	Coffee Break (Atrium)
16.45-18.15	AAVP AWARDS Room: Grand Kentucky Ballroom and online Moderator: Shelly Michalski
16.45-17.15	2021 AAVP-Merck Animal Health Outstanding Graduate Student <i>Awarded to Jeff Gruntmeir</i> <i>University of Florida</i> Heat treatment, what are we missing? Determining the effects on diagnostic accuracy for <i>Dirofilaria immitis</i> antigen in dogs and antibody interference
17.15-17.45	2021 AAVP-Boehringer Ingelheim Distinguished Veterinary Parasitologist <i>Awarded to Andrew Peregrine</i> <i>University of Guelph</i> From Kenya to Canada: Lessons learned?!

Saturday June 19, 2021 continued

17.45-18.30	<p align="center">2021 AAVP-William C. Campbell One-Health Award</p> <p align="center">Awarded to Michael Yabsley <i>University of Georgia</i></p> <p align="center">My experiences on why parasites belong in a One Health framework</p>
18.30-19.00	Break (no refreshments)
19:00-21:30	Elanco Opening Night Social Room: Magnolia Room

IN-PERSON ORAL PRESENTATIONS

Sunday June 20, 2021

8.30-10.00	<p>Session 1: Treatment Modalities and Resistance Room: Grand Kentucky Ballroom Moderators: Antoinette Marsh and Kathryn Duncan</p>
8.30-8.45	<p>11. Ivermectin and moxidectin have distinct pharmacological profiles on the GLC-2 GluCl Timothy Geary <i>McGill University</i></p>
8.45-9.00	<p>24. Lack of canonical beta-tubulin resistance variants in two benzimidazole-resistant ascarid species James B. Collins <i>University of Georgia</i></p>
9.00-9.15	<p>14. Optimization studies of a new modality of deworming: Cry5B IBaCC Kelly Flanagan <i>University of Massachusetts</i></p>
9.15-9.30	<p>17. In vitro screening of phosphoethanolamine methyltransferases (PMTs) inhibitor compounds as potential new broad-spectrum anthelmintics Leonor Sicalo Gianechini <i>University of Georgia</i></p>
9.30-9.45	<p>18. Using a primary <i>C. elegans</i> mutant screen to identify candidate genes that affect the ivermectin sensitivity of the filarial worm <i>B. malayi</i> after RNAi Natalie Wilson <i>University of Georgia</i></p>
9.45-10.00	<p>21. The break-through of macrocyclic lactone resistance in cyathostomins? Martin Nielsen <i>University of Kentucky</i></p>
10.00-10.30	Coffee Break (Atrium)
10.30-12.00	<p>Session 2: Equine Parasitology Room: Grand Kentucky Ballroom Moderators: Ray Kaplan and Constance Finnerty</p>

Sunday, June 20, 2021 continued

10.30-10.45	69. Examining surface antigen variation in <i>Sarcocystis neurona</i> based on whole-genome sequencing of multiple isolates Jamie Norris <i>University of Kentucky</i>
10.45-11.00	28. <i>Too cool for school: How analyst training affects fecal egg count variability</i> Jennifer Cain <i>University of Kentucky</i>
11.00-11.15	23. Ivermectin and moxidectin: Egg reappearance periods and anthelmintic efficacy Martin Nielsen <i>University of Kentucky</i>
11.15-11.30	32. Cyathostomin scavenger hunt - Evaluating precision of parasite burden estimation Mackenzie Smith <i>University of Kentucky</i>
11.30-11.45	68. Comparative H-gal-GP and H11 specific antibody binding in equine cyathostomins Sidney Long <i>The Ohio State University</i>
11.45-12.00	35. Cultivating tradition: Evaluation of the larval culture method for diagnosis of <i>Strongylus vulgaris</i> Jessica Scare Kenealy <i>Eastern Kentucky University</i>
12.15-13.15	Zoetis Luncheon Symposium Moderator: Cory Penn Break the pet-parasite cycle: The connection between prevention and screening Yoko Nagamori Zoetis Room: Grand Kentucky Ballroom and online
13.30-14.15	Editors' panel: How to get that paper published Moderators: Kathryn Duncan and Julie Thompson Panel: Dwight Bowman, Jennifer Ketzis, Martin Nielsen Room: Grand Kentucky Ballroom and online
14.15-14.30	Break
14.30-15.30	Boehringer Ingelheim Seminar Moderator: Dean Dailey 5. Multiple anthelmintic resistance in <i>Ancylostoma caninum</i> : It's much worse than we feared Ray Kaplan <i>University of Georgia</i> Room: Grand Kentucky Ballroom and online
15.30-16.00	Coffee Break (Atrium)

Sunday, June 20, 2021 continued

16.00-18.00	Session 3: Vectors and Vector-Borne Pathogens Room: Grand Kentucky Ballroom Moderators: Doug Carithers and JB Collins
16.00-16.15	84. Equine tick-borne rickettsial infections in northeastern Oklahoma Kathryn Duncan <i>Oklahoma State University</i>
16.15-16.30	50. Tracking an invader: Wildlife surveillance for <i>Haemaphysalis longicornis</i> in the eastern U.S. Alec Thompson <i>University of Georgia</i>
16.30-16.45	73. AC-DC electropenetrography unmasks fine temporal details of feeding behaviors for two tick species on unsexed hosts Kathryn Reif <i>Kansas State University</i>
16.45-17.00	39. Population genetic structure of the Asian longhorned tick, <i>Haemaphysalis longicornis</i> Alec Thompson <i>University of Georgia</i>
17.00-17.15	44. Multi-season survey of ixodid tick species on domestic dogs in Chad, Africa Morgan Friedman <i>University of Georgia</i>
17.15-17.30	46. Ixodid ticks of the Cumberland Gap Region (2016-2020) Barbara Shock <i>Lincoln Memorial University</i>
17.30-17.45	12. Efficacy of a tetanus toxoid-dPNAG conjugated vaccine against experimental <i>Dirofilaria immitis</i> infections in dogs Byron Blagburn <i>Auburn University</i>
17.45-18.00	30. Assessing the field performance of a cell-phone based video-microscope for diagnosing heartworm infection in dogs Guilherme Verocai <i>Texas A&M University</i>
18.00-18.30	Break (no refreshments)
18.30-21.00	Boehringer Ingelheim Sunday Night Social Room: Magnolia Room

Monday June 21, 2021

Breakfast on your own

8.30-10.00	<p>Session 5: Protozoa Room: Grand Kentucky Ballroom Moderators: Gui Verocai and Nichol Ripley</p>
8.30-8.45	<p>62. Locally transmitted <i>Trypanosoma cruzi</i> in a domestic llama (<i>Llama glama</i>) with megaesophagus in a rural area of greater New Orleans, Louisiana, USA Julie Thompson <i>Tulane University</i></p>
8.45-9.00	<p>63. Clinical and subclinical <i>Cytauxzoon felis</i> infections in domestic cats in southern Illinois. Elliott Ziemer <i>Eastern Illinois University</i></p>
9.00-9.15	<p>71. Cytopathic effect of <i>Trichomonas gallinae</i> on cell culture after persistence in simulated environmental conditions Kathryn Purple <i>Lincoln Memorial University</i></p>
9.15-9.30	<p>72. Metabolic profile of <i>Histomonas meleagridis</i> and undefined bacterial population in Dwyer's media with and without rice starch Sawsan Ammar <i>University of Tennessee</i></p>
9.30-9.45	<p>49. Prevalence of <i>Cytauxzoon felis</i> infection carriers in eastern Kansas domestic cats. Kathryn Reif <i>Kansas State University</i></p>
9.45-10.00	<p>67. <i>Histomonas meleagridis</i> outbreak & transmission pathway investigation on a private farm Laura Horton <i>University of Tennessee</i></p>
10.00-10.30	Coffee Break (Atrium)
10.30-12.00	<p>AAVP Business Meeting & Awards AAVP Executive Committee, Student Officers, Corporate Sponsor representatives, and Awardees stay for pictures (if present in person) Room: Grand Kentucky Ballroom and online</p>
12.00-13.00	<p>Merck Luncheon Symposium Moderator: Robert Armstrong</p> <p>6. Dog Owner Flea/Tick Treatment Behavior Assessed Through Veterinary Hospital Transaction Records Robert P. Lavan <i>Merck Animal Health</i></p> <p>Room: Grand Kentucky Ballroom and online</p>
13.00-13.15	Break

Monday June 21, 2021 continued

13.15-14.15	<p style="text-align: center;">Elanco Symposium Moderator: Elizabeth Capitano</p> <p style="text-align: center;">7. Pumping the breaks on tick feeding: Early effects of lotilaner on Lone Star Ticks Brian H. Herrin <i>Kansas State University</i></p> <p style="text-align: center;">Room: Grand Kentucky Ballroom and online</p>
14.30-15.45	<p style="text-align: center;">Session 5: Canine and Diagnostics Room: Grand Kentucky Ballroom Moderators: Timothy Geary and Natalie Wilson</p>
14.30-14.45	<p style="text-align: center;">10. Establishment of dog model of <i>Brugia malayi</i> infection Andy Moorhead <i>University of Georgia</i></p>
14.45-15.00	<p style="text-align: center;">64. Autochthonous, zoonotic <i>Onchocerca lupi</i> in a South Texas dog, United States Caroline Sobotyk <i>Texas A&M University</i></p>
15.00-15.15	<p style="text-align: center;">42 Spatial analysis of four vector-borne pathogens among shelter dogs in the eastern United States Corinna Hazelrigg, <i>University of Georgia</i></p>
15.15-15.30	<p style="text-align: center;">47. Nationwide seroprevalence of select vector-borne pathogens in shelter animals, 2007–2012. Lindsay Starkey <i>Auburn University</i></p>
15.30-15.45	<p style="text-align: center;">29. Assessment of an automated fecal egg count system for small ruminants Paul Slusarewicz <i>MEP Equine Solutions</i></p>
15.45-16.15	<p style="text-align: center;">Coffee Break (Atrium)</p>
16.15-17.30	<p style="text-align: center;">Session 6: Wildlife parasitology Room: Grand Kentucky Ballroom Moderators: Adriano Vatta and Jennifer Cain</p>
16.15-16.30	<p style="text-align: center;">40. Disentangling the cryptic biodiversity of <i>Onchocerca</i> in wild North American ungulates Matthew Kulpa <i>Texas A&M University</i></p>
16.30-16.45	<p style="text-align: center;">65. OMG! EPM associated <i>Neospora caninum</i> in a captive bred zebra (<i>Equus Zebra</i>) Antoinette Marsh <i>The Ohio State University</i></p>
16.45-17.00	<p style="text-align: center;">55. Surveillance for <i>Echinococcus</i> species infections among wild canids in Pennsylvania Kayla Garrett <i>University of Georgia</i></p>
17.00-17.15	<p style="text-align: center;">58. Survey of nuisance coyote populations in the Panhandle of Texas with an emphasis of parasites of Zoonotic importance Ashley Steuer <i>Texas Tech University</i></p>

Monday June 21, 2021 continued

17.15-17.30	56. Clinical babesiosis in a North American river otter (<i>Lontra canadensis</i>) and the prevalence and genetic characterization of this <i>Babesia microti</i> -like species in the eastern United States Kayla Garrett <i>University of Georgia</i>
17.30-18.30	AAVP Students – Afternoon Snack and Student Elections – all students please attend Sponsored by Virbac Room: Magnolia Room and online
19:00-21:00	Elanco Monday Night Social Room: Bigg Blue Martini

Tuesday June 22, 2021

8.30-10.15	PRESIDENT’S SYMPOSIUM: Current Challenges and the Avenues Ahead
8.30 -10.30	Moderator: Martin Nielsen Room: Grand Kentucky Ballroom and online 3. Equine parasitology goes wild: The Sable Island Horse Project Jocelyn Poissant (45 mins) <i>University of Calgary</i> 4. A primer on parasitic nematode extracellular vesicles and why they are relevant to the host-parasite interface Michael Kimber (45 mins) <i>Iowa State University</i>
10.30-11.00	Coffee Break (Atrium)
11.00-12.30	AAVP-NCVP Parasite Clicker Case Discussions Moderators: Gui Verocai and Mani Lejeune Room: Grand Kentucky Ballroom and online
12.30-	Meeting Adjourns – Happy Trails!

Virtual Short Oral Presentations

Control

8 Comparative preventive efficacy of ProHeart®12, Heartgard® Plus and Interceptor®Plus against a macrocyclic lactone-resistant strain (JYD-34) of heartworm (*Dirofilaria immitis*) in dogs inoculated 6 months after commencing treatment

Tom McTier, Zoetis

9 Retrospective analysis of Heartworm (*Dirofilaria immitis*) prevention medication compliance and economic value in dogs in veterinary practices in Australia

Kennedy Mwacalimba, Zoetis

13 Vectra®3D blocks transmission of *Borrelia burgdorferi* by wild-collected *Ixodes scapularis* ticks in an *ex vivo* feeding model

Djamel Tahir, Clinvet Morocco

15 Safety of Simparica Trio® in heartworm-positive dogs and its effect on microfilariae and adult heartworms (*Dirofilaria immitis*)

Sheerin Mathur, Zoetis

16 Predicting pasture infectivity for improved management of gastrointestinal nematodes in cattle on temperate grasslands

Tong Wang, University of Calgary

19 Early onset of pre-lethal effects of lotilaner (Credelio®) on *Amblyomma americanum* ticks on experimentally infested dogs

Martha Wenger, Kansas State University

20 Efficacy of oral moxidectin against induced *Ancylostoma caninum* and *Toxocara canis* infections in dogs

Jessica Rodriguez, Zoetis

Resistance

22 Multiple drug resistance in hookworms infecting greyhounds in the USA

Pablo Jimenez Castro, University of Georgia

25 Deep amplicon sequencing reveals that benzimidazole resistance mutations commonly occur in *A. caninum* populations of pet dogs across the USA

Abhinaya Venkatesan, University of Calgary

26 Modular molecular epidemiological toolkit for studying anthelmintic resistance using next-generation sequencing technology

Rebecca Chen, University of Calgary

27 Large-scale molecular epidemiology and geospatial mapping to investigate patterns of benzimidazole resistance occurrence and spread in North American sheep flocks

Camila Queiroz, University of Calgary

Diagnosis

31 Creating curated databases for different rDNA cistron markers of nematodes to support more flexible and customized nemabiome metabarcoding

Eleonore Charrier, University of Calgary

33 Next Generation Sequencing-based metabarcoding to investigate species diversity of morphologically classified cattle *Eimeria*

Venkateswara Rao Parimisetti, University of Calgary

34 Effect of increasing temperature on the denaturation of canine IgG and its ability to inhibit heartworm antigen detection

Jeff Gruntmeir, University of Florida

36 Investigating the potential for heartworm antigen test cross-reactivity in dogs infected with intestinal helminths Alice Lee, University of Florida
Epidemiology
37 Heartworm in carnivores kept in zoos located in Texas, USA: risk perception, practices, and prevalence Kaitlyn Upton, Texas A&M University
38 Heartworm prevalence in dogs versus cats: Multiple diagnostic modalities provide new insights Kennedy Mwacalimba, Zoetis
41. Detection of five common internal parasites in high animal traffic areas. Tanner Hernandez <i>Louisiana State University</i>
43 Regional variations and patterns of infestation of ticks from horses across the United States Makaela Hedberg, Kansas State University
45 Population characteristics of dogs and cats infested with ticks in the United States Susan Little, Oklahoma State University
48 Improving public health surveillance of <i>Onchocerca lupi</i> through increased host and vector screening Chandler Roe, Northern Arizona University
Wildlife
51 Vector-borne and blood-borne parasitic disease prevalence survey in wild Texas ocelots (<i>Leopardus pardalis</i>) and bobcats (<i>Lynx rufus</i>) Nicole Szafranski, University of Tennessee
52 Detection of <i>Trypanosoma cruzi</i> in raccoons and triatomines in northeast Kansas Kamilyah Miller, Kansas State University
53 Parasites of Northern bobwhite quail (<i>Colinus virginianus</i>) from western Oklahoma Seth Wyckoff, University of Georgia
54 Wildlife diversity among villages in Chad, Africa with various levels of <i>Dracunculus medinensis</i> (Guinea worm) infections in domestic dogs: insights into possible reservoirs? Avery Korns, University of Georgia
57 Susceptibility of anurans, lizards, and fish to infection with <i>Dracunculus</i> species larvae and implications for their roles as paratenic hosts Erin Box, University of Georgia
59 The importance of mange diagnostics and some unusual clinical cases in wildlife Ryan Grunert, University of Georgia
60 Distribution and prevalence of antibodies to <i>Trichinella</i> spp. and <i>Toxoplasma gondii</i> in feral swine in the United States Katherine Callaghan, University of Georgia
61 What is blackhead disease in free-ranging wild turkeys (<i>Meleagris gallopavo</i>)?: Comparison of <i>Tetratrichomonas gallinarum</i> , <i>Simplicimonas</i> sp., and <i>Tritrichomonas</i> sp. infections with <i>Histomonas meleagridis</i> Rowan Bäck, University of Georgia
Novel cases
66 <i>Halicephalobus gingivalis</i> in the eye of a horse and chemoprophylaxis of a potentially exposed person Andrew Peregrine, University of Guelph
Education
70 Survey of parasitology instruction at North American veterinary colleges Meriam Saleh, Texas A&M University

Virtual Poster Presentations

Control

74 A questionnaire survey on helminth control practices in horse farms in Lithuania
Evelina Dauparaitė, *Lithuanian University of Health Sciences*

75 Evaluation of plant secondary metabolites as inhibitors of *Cryptosporidium parvum* in vitro
Jason Fritzler, *Texas Tech University*

76 Applying DNA-encoded library (DEL) screens and machine learning (ML) to drug discovery in animal health
Mackenzie Pfeiffer, *Animol Discovery*

Resistance

77 The effect of xenogeneic extracellular vesicles on the pathophysiology and drug resistance of *Leishmania* spp. infections in vivo
Victoria Wagner, *Université de Montréal*

Diagnosis

78 Diagnostic Improvements in the Detection of Intestinal Habronematid Infections in Equids
Jaime Hazard, *Cornell University*

79 Towards automated identification and enumeration of eggs in fecal samples
Jasmine Nejad, *Colorado State University*

Epidemiology

80 Assessing the human healthcare burden of zoonotic diseases: an analysis of hospital discharge records for characterizing patients and analyzing trends in *Toxoplasma gondii* (toxoplasmosis) cases in Nevada for 2013-2019
Chad Cross, *University of Nevada*

81 Bovine trichomonosis cases in the United States 2015 – 2019
Katy Martin, *Iowa State University*

82 Mitochondrial haplotypes, phylogenetic relationships, and beta-tubulin SNPs among U.S. field isolates of *Ancylostoma caninum*
Theresa Quintana, *Kansas State University*

83 Molecular detection of *Trypanosoma cruzi* in kissing bugs collected across Oklahoma
Kelly Allen, *Oklahoma State University*

84 Equine tick-borne rickettsial infections in northeastern Oklahoma
Kathryn Duncan, *Oklahoma State University*

85 Genetic diversity of *Trypanosoma cruzi* among infected Southern Louisiana shelter cats
Hans Desale, *Tulane University*

Wildlife

86 Prevalence of *Baylisascaris procyonis* in raccoons (*Procyon lotor*) from Merrick County, Nebraska
Sydney Reeves, *Kansas State University*

87 Prevalence of internal parasites in wildlife and domestic canids from western Alaska and comparison of *Toxascaris leonina* cox 1 gene sequences
Karisa Sommermeyer, *Colorado State University*

88 Surveillance to determine the sylvatic range of Feline Cytosporidiosis in NE United States
Manigandan Lejeune, *Cornell University*

89 Detection of *Cytosporidium felis*, *Hepatozoon* spp., and *Sarcocystis* spp. in bobcats (*Lynx rufus*) from Oklahoma
Megan Lineberry, *Oklahoma State University*

<p>90 <i>Echinococcus multilocularis</i> and lungworm infection in wild canids from Virginia: Preliminary results Roger Ramirez-Barrios, Virginia Tech</p>
<p>Education</p>
<p>91 Veterinarian perceptions of canine giardiasis and communication on zoonotic potential in the U.S. Megan Eppler, Kansas State University</p>
<p>Novel cases</p>
<p>92 Clinical <i>Sarcocystis neurona</i> in a dog co-infected with <i>Ancylostoma caninum</i> Ruth Scimeca, Oklahoma State University</p>