

SPECIAL POINTS OF INTEREST:

- **New Merck Resident Named**
- **Our Awesome Residents**
- **NCVP attends WAAVP**

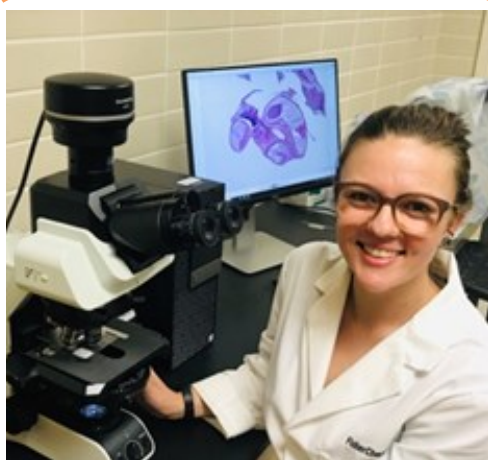
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People

Meet the Merck Resident—Dr. Caroline Sobotyk de Oliveira!

Dr. Sobotyk completed her DVM in 2013 at the Universidade Federal de Santa Maria (UFSM), Brazil and then earned both an MSc (2015) and PhD (2019) working on vector-borne infections, including spotted fever *Rickettsia* and *Leishmania*. Caroline also received advanced training in teaching in the professional curriculum, expertise that will serve her well as she undertakes the NCVP program. With a PhD already in hand, Caroline's Merck-funded NCVP residency training will take place over ~ 27 months rather than the usual 4 years.



Dr. Caroline Sobotyk de Oliveira diving right in at Texas A&M

Dr. Sobotyk's clinical residency will be completed at Texas A&M University's College of Veterinary Medicine under the direction of Dr. Gui Verocai. The two-year training at Texas A&M funded by Merck Animal Health through the NCVP will allow her to hone her skills, prepare for board examination from the ACVM, and ultimately reach her long-term career goal of obtaining an academic position in veterinary parasitology with a strong focus in teaching, diagnostics, and research.

Welcome to the NCVP family, Caroline – a big TAMU "Howdy!" from all of us!



Congratulations to Dr. Jeba Jesudoss Chelladurai!

Dr. Jesudoss Chelladurai, NCVP Resident at Iowa State University under the mentorship of Dr. Matt Brewer, received the AAVP-Merck Animal Health Outstanding Graduate Student Research Award for her dissertational research. Dr. Chelladurai was presented the award at the 2019 WAAVP meeting in Madison, Wisconsin, where she gave a talk entitled, "The beginning of a career in Parasitology: Challenges in studying anthelmintic susceptibility."

The award consists of reimbursement of travel expenses by the AAVP, an engraved plaque, and an honorarium of \$1,000 provided by Merck Animal Health.

Congratulations, Jeba – we are so proud of you!



Dr. Jeba Jesudoss Chelladurai, center, with Dr. Dorothy Normile (left) and Dr. Frank Guerino (right) from Merck Animal Health

Congratulations to Dr. Cassan Pulaski!

Dr. Cassan Pulaski, past Merck Resident under the supervision of Dr. Jack Malone at Louisiana State University, was selected as the recipient of the 2019 AAVP-CAPC Graduate Student Award in Zoonotic Disease for her work on *Dirofilaria immitis* and other filarial infections.

The award, which consists of a travel grant, engraved plaque, and honorarium of \$1,000 provided by CAPC, recognizes excellence in graduate course work, research, and research publications and was presented at the joint AAVP/WAAVP meeting in Madison, Wisconsin. Dr. Pulaski also presented part of her doctoral research on macrocyclic lactone resistance in *Dirofilaria immitis* at the meeting.

Way to go Cassan!



Dr. Cassan Pulaski sharing her research at WAAVP

NCVP Presence at WAAVP Plenary Sessions Abounds

As part of their ongoing contributions to veterinary parasitology, **Dr. Susan Little**, NCVP Co-Director (Oklahoma State University), together with **Dr. Dwight Bowman**, NCVP Board Member (Cornell University), presented a session entitled "Changing Parasite and Vector Distribution in a Changing World" to update WAAVP attendees on the latest news from the Companion Vector Borne Disease (CVBD) World Forum. The CVBD World Forum is a Bayer-sponsored effort now 14 years running that seeks to enhance knowledge and communication on companion animal vector-borne diseases for the improvement of animal, human, and environmental health.



Dr. Susan Little and Dr. Dwight Bowman in a possible parasitology karaoke sing-off



Dr. Mason Reichard leads a discussion at WAAVP

Dr. Mason Reichard, NCVP Co-Director (Oklahoma State University) and a member of the 2019 WAAVP local organizing committee, led a session on "Veterinary Entomology – Outbreak and Advancements" with presentations contributed on a One Health Approach to Manage Tick-borne Diseases in North America (Dr. Beto Perez de Leon, USDA), Outbreak, Surveillance, and Control of *Haemaphysalis longicornis* (Dr. Nicole Lewis, New Jersey Department of Ag), and Triatomines and *Trypanosoma cruzi* at the Human-Wildlife-Dog Interface (Dr. Sarah Hamer, Texas A&M University).

Thanks NCVPers – keep that parasitology information coming!



Events



WAAVP

27th Conference of the World Association for the Advancement of Veterinary Parasitology
JULY 7 – 11, 2019 | MADISON, WI, USA

NCVP at WAAVP/AAVP 2019



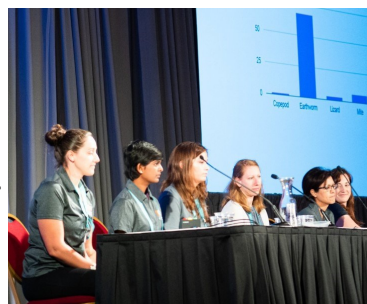
Check out the **NCVP** table, and popular parasite swag in action at **WAAVP**!

NCVP had a strong presence at the 27th Conference of the World Association for the Advancement of Veterinary Parasitology (WAAVP). Held in Madison, Wisconsin July 7–11th, this amazing event was a joint meeting of WAAVP, the American Association of Veterinary Parasitologists (AAVP), and the Livestock Insect Workers Conference (LIWC).

In total, 750 parasitologists from over 50 countries participated and NCVP was well represented, with residents, board members, and grant recipients presenting oral, poster, and plenary sessions. The NCVP table — complete with magnets, stickers, parasite tattoos, parasite specimens in preservative gel, and parasite videos on YouTube — was a sought-after destination in the exhibition hall.

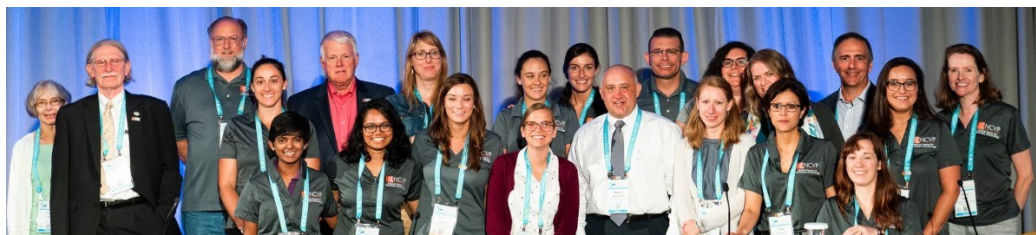
NCVP Resident Clicker Session Goes International!

Just as everyone smiles in the same language, so must everyone enjoy clinical cases no matter where we originally learned our parasites. In what has become a highlight at the annual conference, NCVP sponsored the clinical clicker case session providing lunches, entertainment, and education to all in attendance. **Dr. Dwight Bowman**, NCVP Board Member (Cornell University), again served as our master of parasitology ceremonies, keeping the session on track as we swiftly moved through a menagerie of cases showcasing protozoa, nematodes, ticks, and even a pentastome.



Results are coming in!

Special thanks are due to our presenting residents who made the session such a success by sharing their expertise. Presenters included **Dr. Kelsey Paras** (Elanco Resident, University of Georgia), **Dr. Jeba Jesudoss Chelladurai** (NCVP Resident, Iowa State University), Dr. Katy Martin (Iowa State University), **Dr. Ruth Scimeca** (Bayer Resident, Oklahoma State University), **Dr. Ashley Steuer** (Zoetis Resident, University of Kentucky), **Dr. Kathryn Duncan** (BI Resident, Oklahoma State University), and Dr. Andrea Springer (University of Veterinary Medicine Hannover). **Thanks for all the great cases!**



Members of the **NCVP** family after the clicker cases session at **WAAVP**!

Nearly 200 attendees enjoyed this year's clicker session!



NCVP Grant

Applications

are accepted

September 1st

of each year.

Be sure to look for

the Request for

Proposals.

NCVP Funded Research Presented at WAAVP 2019

The NCVP small grants program helps support the research efforts of veterinary parasitologists who are AAVP members. Priority is given to proposals that focus on veterinary parasitology and are considered unlikely to be funded through other channels, such as the NIH. Funding is competitive and awarded based on scientific merit, relevance to clinical or basic veterinary parasitology, and student involvement. Additionally, the American Heartworm Society graciously provides additional funding for research focusing on *Dirofilaria immitis*. Below are examples of some of the NCVP funded projects presented at WAAVP 2019.

- Dr. Sarah Hamer from Texas A&M presented her findings on *Trypanosoma cruzi* in the southern US, research that was funded in part by an NCVP grant entitled, "Clarifying host-vector and vector-host *Trypanosoma cruzi* transmission dynamics to reduce the risk of canine Chagas transmission."
- Dr. Phil Kaufman from the University of Florida presented his findings on *Dirofilaria immitis* in mosquitos, research that was funded in part by an NCVP grant entitled, "Improved sampling for and determination of seasonal incidence of dog heartworm-infected mosquitoes collected near private homes and dog kennel facilities."
- Dr. Temitope Kolapo working with Dr. Emily Jenkins from the University of Saskatchewan presented her finding on *Echinococcus multilocularis* in canids, research that was funded in part by an NCVP grant entitled, "*Echinococcus* species and genotypes in North America."
- Dr. Jonathon Kotwa working with Dr. Andrew Peregrine at the Ontario Veterinary College presented on *Echinococcus multilocularis*, research that was funded in part by an NCVP grant entitled, "Evaluation of the prevalence of *Echinococcus multilocularis*, and risk of infection, in wild canids in Ontario, Canada."
- Dr. Katy Martin working with Dr. Matt Brewer from Iowa State University presented on *Tritrichomonas foetus*, research that was funded in part by an NCVP grant entitled, "Development of a rapid field diagnostic test for *Tritrichomonas foetus*."
- Dr. Mostafa Zamanian's research team from the University of Wisconsin—Madison presented several papers on chemosensory receptors of *Dirofilaria immitis*, work that was funded in part by an NCVP grant entitled, "Discovery and exploitation of *Dirofilaria immitis* chemosensory receptors for anthelmintic discovery."
- Dr. Sarah Zohdy from Auburn University presented her findings on a novel detection method using unique volatile organic compounds in dog breath for *Dirofilaria immitis*, work that was funded in part by an NCVP grant entitled, "Does canine infection with *Dirofilaria immitis* impact mosquito vector attraction?"



Presentations at WAAVP 2019 by NCVPers

- **Kelly Allen**, NCVP Board (Oklahoma State University), Early oral sarolaner (Simparica™, Zoetis) acaricidal activity against *Ixodes scapularis* and *Amblyomma americanum* adults after monitored attachment intervals on treated dogs
- **Dwight D. Bowman**, NCVP Board (Cornell University), The AAVP Educators Meeting: Past, Present, and Future; Highly specific screening tests maintain actionable positive predictive values in areas with low heartworm prevalence; A short review of the 100 years of methods other than the direct smear for detecting parasites in feces



- **Jeba Chelladurai**, NCVP Resident (Iowa State University), Exploring the role of ABCB1 transporters in *Toxocara canis*; and Evaluation of biochemical assays for in vitro testing of drug response in *Dirofilaria immitis* microfilaria (poster)

- **Michael Dryden** (left), NCVP Board (Kansas State University), Further Comparison of Centrifugation versus passive fecal flotation for the recovery of *Toxocara canis*, *Trichuris vulpis* and *Ancylostoma caninum* eggs

- **Kathryn Duncan**, BI Resident (Oklahoma State University), *Dermacentor* spp. from dogs and cats in North America: diversity and geographic distribution

- **Timothy Geary**, NCVP Board (McGill University), Data-driven revolutions in antiparasitic drug discovery

- **Susan Little**, NCVP Co-Director (Oklahoma State University), Prevalence of intestinal parasites in pet dogs in the United States, 2016–2018

- **Yoko Nagamori** (right), NCVP Board (Oklahoma State University), Retrospective fecal survey of parasites in 2,323 client-owned cats in northcentral Oklahoma from 2007 through 2017



- **Kelsey Paras**, Elanco Resident (University of Georgia), Motility-based assays using cultured L4 fail to discriminate avermectin-resistant and -susceptible *Cooperia* spp.

- **Mason Reichard**, NCVP Co-Director (Oklahoma State University), Efficacy of a topical formulation of selamectin plus sarolaner (Revolution® Plus) against induced infestations of *Amblyomma americanum* on cats and prevention of *Cytauxzoon felis* transmission

- **Meriam Saleh**, NCVP Project Leader (Oklahoma State University), Show Us Your Ticks: A survey of ticks infesting dogs and cats across the United States

- **Ruth Scimeca**, Bayer Resident (Oklahoma State University), Differential gene expression response in domestic cats experimentally infected with *Cytauxzoon felis*

- **Ashley Steuer**, Zoetis Resident, Evaluation of the immune response to larvicidal treatment of equine cyathostomin infection

- **Anne Zajac** (right), NCVP Board (Virginia Tech), Alveolar echinococcosis in a dog in the Eastern U.S.



NCVP Residents Attend Wildcat Parasitology!

BI Resident **Dr. Kathryn Duncan** and Bayer Resident **Dr. Ruth Scimeca**, both graduate students at Oklahoma State University, attended Wildcat Parasitology (WCP) at Kansas State University (KSU) June 17–21, 2019. Many thanks to KSU faculty members **Drs. Mike Dryden** (NCVP Board Member), Brian Herrin (NCVP Alum), and Katy Reif for the expert training provided to NCVP residents and other attendees, and to the industry sponsors supporting this fantastic educational opportunity.



Another successful tick drag adventure at WCP! NCVP residents Dr. Ruth Scimeca (Bayer, left) and Dr. Kathryn Duncan (BI, 4th from left) completed the course offered by KSU in June. Also pictured are KSU faculty and WCP instructors Drs. Brian Herrin (3rd from left) and Katy Reif (4th from right) and NCVP Board member Dr. Lisa Young (Elanco, 2nd from right).

The week-long workshop is designed to expose trainees to a variety of concepts and techniques in parasitology through lectures, targeted laboratory and field work exercises, and independent research. Highlights include a tour of the infamous KSU flea colony and the tick identification test!

Great job Kathryn and Ruth for completing the training! Thanks again to all who make it happen year after year!



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Drs. Duncan (left) and Scimeca (right) refer to lecture notes and examine different tick species as part of a learning exercise at WCP.



BI resident Dr. Kathryn Duncan and Kellee Sundstrom, Oklahoma State University graduate student, complete heartworm diagnostics module during WCP.

NCVP Provides New Arthropod Specimen Kits for Teaching

In 2018, the NCVP provided specimens of different tick species and stages to veterinary parasitology instructors across North America. The specimens are prepared by suspending arthropods in hand sanitizing gel within glass vials, making them easily viewed directly or with a dissecting microscope. Specimens can be removed from the gel using forceps for a closer inspection and then replaced for continued preservation. Also a plus, the kits come in their own carrying case for easy transport.

The tick specimen sets were so greatly appreciated that the NCVP assembled additional sets of arthropods including adults of several biting flies, different stages of bedbugs, immature and adult fleas, and even kissing bugs for distribution to North American veterinary schools. Specimens in the 2019 NCVP arthropod edition were on display at WAAVP 2019 in Madison, Wisconsin. Educators in academia and industry, graduate and veterinary students, and other meeting attendees were excited about the utility of the arthropod sets.



Arthropod specimen kits 2.0

Contact ncvetp.org to find out more about teaching specimens from NCVP.

NCVP Circulates Annual Request for Proposals



Due by September 01, 2019

Invitation to Submit Research Proposals in Clinical Veterinary Parasitology

The [National Center for Veterinary Parasitology](http://www.ncvetp.org) (NCVP, www.ncvetp.org) supports training, research, and service in veterinary parasitology. As part of our effort to support parasitology research, we offer an annual request for research proposals (RFP). We are delighted to once again collaborate with the American Heartworm Society (www.heartwormsociety.org) to provide support for this initiative, allowing us to increase the amount of available funding. This RFP is open to all members of the American Association of Veterinary Parasitologists in good standing with preference for applicants at AVMA-accredited schools in the Americas.



Research proposals will be evaluated on scientific merit and relevance to clinical or basic veterinary parasitology. Some level of student involvement in the proposed research is expected. Priority will be given to proposals that focus on veterinary parasitology and are considered unlikely to be funded through other channels, such as the National Institutes of Health. One-year awards of \$10,000–\$15,000 each will be distributed in December 2019. Because of additional support provided by AHS, funding will be reserved for project(s) focused in some way on *Dirofilaria immitis*. Only one proposal from a PI/research lab will be considered for each funding cycle.

Guidelines to Submit Research Proposals. Applicants and prior award recipients who do not follow NCVP instructions or reporting requirements will not be considered for funding. All proposals must be prepared using a sans-serif font of size 11 or larger, single spaced with minimum 1" top, bottom, and side margins. Proposals must not exceed the indicated page limitations and should closely follow the format outlined below.

Title Page – limit 1 page. Include the project title, principal investigator's name and contact information, amount requested, dates of the proposed project, and date submitted.

Abstract – limit 1 page. Provide a brief, 300-word description of the proposed research.

Research Plan – limit 5 pages. Include the following:

- Background and significance of the research
- Purpose/specific aims/hypothesis(es)
- Experimental design and methods
- Data analyses that critically address the proposed hypothesis(es)
- Expected results and outcome(s)

References – limit 1 page. List important and/or relevant literature cited in the proposal.

Detailed Budget and Justification – limit 1 page. The following budget items are not allowed: travel; publication costs; salary for faculty and staff; tuition, fees, and benefits for students; and indirect costs (i.e., overhead). Student salary is allowed and may comprise up to 50% of the budget.

- Identify all costs that are necessary and reasonable to accomplish the proposed research
- Justify all costs with a brief description

The NCVP grant program is now in its 7th year, with an annual request for proposals circulated to AAAP members since Spring 2013. Our grant program was initiated to allow AAAP members to obtain funds for research on neglected and overlooked parasites of veterinary concern and the program is still going strong.

Since its inception, NCVP has provided over \$500,000 to AAAP members at 21 different institutions and supported research on parasites of clinical importance that affect companion animals, livestock, horses, wildlife, poultry, and fish. Proposals are reviewed and scored according to scientific merit and impact on clinical veterinary parasitology. Incorporation of students in the proposed research is requisite to obtaining NCVP funds.

Fall 2019 Annual NCVP Board Meeting in Stillwater, OK

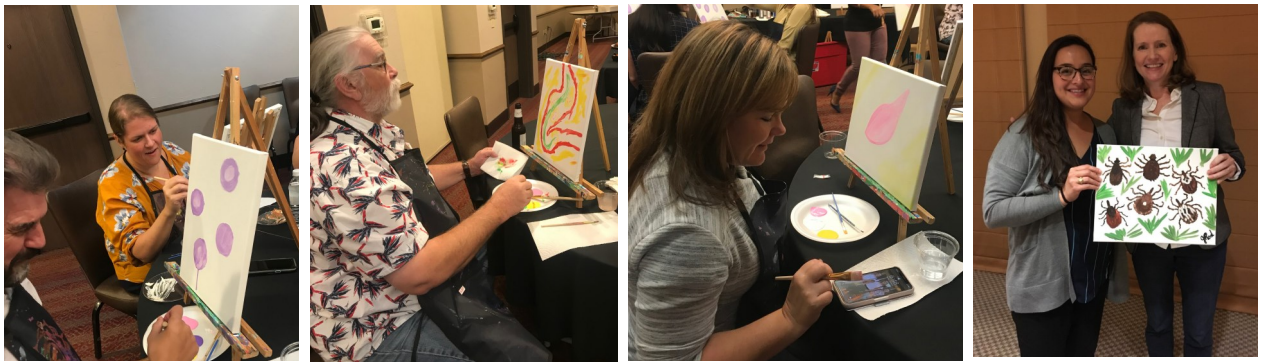
It is hard to believe that another NCVP Advisory Board meeting has already come and gone. As is tradition each fall, the NCVP Board Members met with NCVP Residents in Stillwater to hear updates on their clinical training and research progress to date. The meeting took place from October 8th through the 10th and consisted of planning for the year to come as well as training sessions focused on Good Clinical Practice (GCP) and presentation skills (right) for NCVP Residents.



Dr. Kathryn Duncan receiving feedback during a training session with [PowerPresentations](#)

To welcome everyone NCVP Board Members and Residents were treated to a night of parasitology creative expression, consisting of a guided parasite painting class. Everything from trematodes to ticks was painted, and fun was had by all! On Wednesday October 9th the NCVP Advisory Board was joined by veterinary students from Oklahoma State University for keynote presentations by NCVP Residents detailing their latest research findings.

This year's meeting was both productive and fun — a definite success!



Left to right, Drs. Byron Blagburn, Lindsay Starkey, Tim Geary, Jennifer Edmonds, Jessica Rodriguez, and Susan Little creating and enjoying painted parasite masterpieces



Group photo of NCVP Residents, Board Members and OSU veterinary students after dinner on October 9th

About the National Center for Veterinary Parasitology

Veterinary parasites impact human health and society in many ways. With the generous support of our sponsors, the National Center for Veterinary Parasitology works to promote greater understanding and control of parasitic diseases in animals through innovative partnerships between academia and industry. Housed in the Center for Veterinary Health Sciences at Oklahoma State University, the center strives to create future generations of veterinary parasitologists, conduct targeted research, and provide diagnostic and consulting services worldwide. To learn more, please visit ncvetp.org.



NCVP Residents and Board Members, October 2019



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Selected Publications from NCVP Members

Our residents and board members are a busy group. Below is a very abridged list of just a few of the recent publications from NCVP members (names of board members and residents are bolded). To request the full list or individual reprints, please send an email to ncvp@okstate.edu. Most importantly if you have suggestions for future continuing education articles, review papers, or topics you think would be of interest to veterinarians and others in parasitology, please send us your suggestions.

- Allen KE, Thomas JE, Wohltjen ML, Reichard MV.** Transmission of *Cytauxzoon felis* to domestic cats by *Amblyomma americanum* nymphs. *Parasit Vectors*. 2019; 12(1): 28.
- Balinsky DL, **Paras KL**, Hanna R, Elsemore DA, Verocai GG. Parasite survey on a captive wolf population using classical techniques and ELISA coproantigen detection, USA. *Vet Parasitol: Reg Stud Reports*. 2019; 16: 100285.
- Barone CD, **Zajac AM**, Ferguson SM, Brown RN, Reed JD, Krueger CG, Petersson KH. In vitro screening of 51 birdsfoot trefoil (*Lotus corniculatus* L.; Fabaceae) strains for anti-parasitic effects against *Haemonchus contortus*. *Parasitol*. 2019; 146(6): 828–36.
- Carruth AJ, Buch JS, Braff JC, Chandrashekar R, **Bowman DD**. Distribution of the feline lungworm *Aelurostrongylus abstrusus* in the USA based on fecal testing. *JFMS Open Rep*. 2019; 5(2): 2055116919869053.
- Collins JB, Jordan B, Baldwin L, Hebron C, **Paras K**, Vidyashankar AN, Kaplan RM. Resistance to fenbendazole in *Ascaridia dissimilis*, an important nematode parasite of turkeys. *Poult Sci*. 2019; pii: pez379.
- Dantas-Torres F, Miró G, **Bowman DD**, Gradoni L, Otranto D. Culling dogs for zoonotic visceral leishmaniasis control: the wind of change. *Trends Parasitol*. 2019; 35(2): 97–101.
- Dryden MW**, Canfield MS, Herrin BH, Bocon C, Bress TS, Hickert A, Kollasch TM, Phan L, Rumschlag AJ, Ryan WG, Sampeck B, Smith N, Smith V, Warcholek SA. In-home assessment of flea control and dermatologic lesions in dogs provided by lotilaner (Credelio®) and spinosad (Comfortis®) in west central Florida. *Vet Parasitol: X*. 2019; 1: 100009.
- Fisara P, **Guerino F**, Sun F. Efficacy of a spot-on combination of fluralaner plus moxidectin (Bravecto® Plus) in cats following repeated experimental challenge with a field isolate of *Ctenocephalides felis*. *Parasit Vectors*. 2019; 12(1): 259.
- Gharieb RMA, **Bowman DD**, Liotta JL, Xiao L. Isolation, genotyping and subtyping of single *Cryptosporidium* oocysts from calves with special reference to zoonotic significance. *Vet Parasitol*. 2019; 271: 80–6.
- Harroff LA, Liotta JL, **Bowman DD**, Angenent LT. Current time-temperature relationships for thermal inactivation of *Ascaris* eggs at mesophilic temperatures are too conservative and may hamper development of simple, but effective sanitation. *Water Res X*. 2019; 5: 100036.
- Jesudoss Chelladurai J**, Brewer MT. Detection and quantification of *Parascaris* P-glycoprotein drug transporter expression with a novel mRNA hybridization technique. *Vet Parasitol*. 2019; 267: 75–83.
- Jesudoss Chelladurai J**, Kifleyohannes T, Scott J, Brewer MT. Praziquantel Resistance in the zoonotic cestode *Dipylidium caninum*. *Am J Trop Med Hyg*. 2018; 99(5): 1201–5.
- Jesudoss Chelladurai J**, Derscheid R, Brewer MT. Respiratory disease associated with migrating *Ascaris* larvae in a beef calf. *Vet Parasitol: Reg Stud Reports*. 2018; 12: 9–12.
- Leroux L-P, Nasr M, Valanparambil R, Tam M, Rosa BA, Siciliani E, Hill, Dolores E, Zarlenga DS, Jaramillo M, Weinstock JV, **Geary TG**, Stevenson MM, Urban JF, Mitreva M, Jardim A. Analysis of the *Trichuris suis* excretory/secretory proteins as a function of life cycle stage and their immunomodulatory properties. *Sci Rep*. 2018; 8(1): 15921.
- Little SE**, Barrett AW, Beall MJ, **Bowman DD**, Dangoudoubiyam S, Elsemore DA, Liotta J, Lucio-Forster A, McCrann DJ, Snowden F, **Starkey LA**, Tasse S. Coproantigen detection augments diagnosis of common nematode infections in dogs. *Top Companion Anim Med*. 2019; 35: 42–6.
- McTier TL, Kryda K, Wachowski M, Mahabir S, Ramsey D, Rugg D, Mazaleski M, Therrien C, Adams E, Wolff T, **Bowman DD**. ProHeart® 12, a moxidectin extended-release injectable formulation for prevention of heartworm (*Dirofilaria immitis*) disease in dogs in the USA for 12 months. *Parasit Vectors*. 2019; 12(1): 369.
- Nagamori Y**, Ramachandran A, Kuzma C, Nafe L, Johnson EM. A zoonotic parasite, *Linguatula serrata*, infection in a dog imported from Ethiopia to the United States. *Vet Parasitol: Reg Stud Reports*. 2019; 16: 100273.
- Nagamori Y**, Payton M, Coburn L, **Thomas JE, Reichard M**. Nymphal engorgement weight predicts sex of adult *Amblyomma americanum*, *Amblyomma maculatum*, *Dermacentor andersoni*, *Dermacentor variabilis*, and *Rhipicephalus sanguineus* ticks. *Exp Appl Acarol*. 2019; 77(3): 401–10.
- Nagamori Y**, Payton ME, Duncan-Decocq R, Johnson EM. Fecal survey of parasites in free-roaming cats in northcentral Oklahoma, United States. *Vet Parasitol: Reg Stud Reports*. 2018; 14:50–3.
- Paras KL**, Miller L, Verocai GG. Ectopic infection by *Diocetophyme renale* in a dog from Georgia, USA, and a review of cases of ectopic diocetophymosis in companion animals in the Americas. *Vet Parasitol: Reg Stud Reports*. 2018; 14: 111–6.
- Prichard RK, **Geary TG**. Perspectives on the utility of moxidectin for the control of parasitic nematodes in the face of developing anthelmintic resistance. *Int J Parasitol Drugs Drug Resist*. 2019; 10:69–83.
- Reichard MV**, Rugg JJ, **Thomas JE, Allen KE**, Barrett AW, Murray JK, Herrin BH, Beam RA, King VL, Vatta AF. Efficacy of a topical formulation of selamectin plus sarolaner against induced infestations of *Amblyomma americanum* on cats and prevention of *Cytauxzoon felis* transmission. *Vet Parasitol*. 2019; 270: S31–S7.
- Saleh MN**, Heptinstall JR, Johnson EM, Ballweber LR, Lindsay DS, Werre S, Herbein JF, **Zajac AM**. Comparison of diagnostic techniques for detection of *Giardia duodenalis* in dogs and cats. *J Vet Intern Med*. 2019; 33(3): 1272–7.
- Saleh MN**, Lindsay DS, Leib MS, **Zajac AM**. *Giardia duodenalis* assemblages in cats from Virginia, USA. *Vet Parasitol: Reg Stud Reports*. 2019; 15: 100257.
- Scare JA, **Steuer AE**, Shaffer CL, Slusarewicz P, Mousley A, Nielsen MK. Long live the worms: methods for maintaining and assessing the viability of intestinal stages of *Parascaris* spp. in vitro. *Parasitol*. 2019; 146(5): 685–93.
- Schreag ME, Marr HS, Tarigo JL, Sherrill MK, Outi HK, Scholl EH Bird DM, Vigil A, Hung C, Chris Nakajima R, Liang L, Trieu A, Doolan DL, **Thomas JE**, Levy MG, **Reichard MV**, Felgner PL, Cohn LA, Leah A, Birkenheuer AJ. Identification of *Cytauxzoon felis* antigens via protein microarray and assessment of expression library immunization against cytauxzoonosis. *Clin Proteo*. 2018; 15(1): 44.
- Vatta AF, Myers MR, **Bowman DD**, Rugg JJ, Damrah L, Therrien C, Liotta JL, Lucio-Forster A, King VL, Rugg D. Efficacy and safety of a new topical formulation of selamectin plus sarolaner in the treatment and control of natural infections of *Ancylostoma tubaeforme* and *Toxocara cati* in cats presented as veterinary patients in the United States. *Vet Parasitol*. 2019; 270: S45–S51.
- Williams BM, Cleveland CA, Verocai GG, Swanepoel L, Niedringhaus KD, **Paras KL, Nagamori Y, Little SE**, ... , **Pulaski CN**, Yabsley MJ. *Dracunculus* infections in domestic dogs and cats in North America; an under-recognized parasite? *Vet Parasitol: Reg Stud Reports*. 2018; 13: 148–55.
- Zynda HM, Scare JA, **Steuer AE**, Anderson HP, Nielsen MK. Encysted cyathostomin larval counts: Mucosal digestion revisited. *Vet Parasitol*. 2019; 273: 86–89.



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