

**BIOMEDICAL & VETERINARY SCIENCES
GRADUATE PROGRAM**



ANNOUNCES

The Master of Science Seminar and Examination of

Dr. Alyssa Helms

**“Presumptive identification of smooth Brucella
strain antibodies in canines”**

Monday, June 14th, 2021

1:00PM

VMIA 220



Bio

Dr. Helms received her DVM degree, graduating with honors, from The University of Tennessee College of Veterinary Medicine. Her focus on canine reproductive medicine was cultivated throughout her veterinary training through involvement with the local breeder community, canine research, and her personal experience owning and exhibiting Australian Shepherds and Pembroke Welsh Corgis. Dr. Helms is an advocate for the health and preservation of the purpose-bred dog. She is grateful to the Virginia Maryland College of Veterinary Medicine, the Virginia-Tech Graduate School, the American Kennel Club, the AKC Canine Health Foundation and the Theriogenology Foundation for their support of her specialty training in Theriogenology.

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Lay Language Abstract

Brucellosis is a bacterial disease that can cause severe reproductive, orthopedic and general illness in both dogs and humans. There are four different species of *Brucella* that can be transmitted between animals and people: *Brucella canis*, *abortus*, *suis*, and *melitensis*. Although *Brucella canis* is the species that is widely recognized and routinely tested for in breeding dogs, what has been vastly under recognized is the ability for dogs to contract and transmit the other three (smooth) *Brucella* species. Of added concern is the fact that the test currently used to screen dogs for brucellosis only identifies *Brucella canis* infection. Thus, veterinarians may be missing cases where dogs are infected with other *Brucella* species. The contributions of this study are threefold. First, to heighten awareness that both smooth and rough strains of brucellosis infection in dogs are infectious diseases of zoonotic concern. Second, it demonstrates that smooth *Brucella* strain infection may be underestimated among the canine population in the United States. Third, it reveals the need for a commercially validated test for the smooth strains of brucellosis in dogs, and offers direction for future research efforts to likely focus on validation of the Fluorescent Polarization Assay.

Publications

- Helms AB, Thompson RE, Lawton S, Petersen JL, Watson A, Sula MJ, Steffen D, Whitlock BK. Uterine Torsion Dystocia Complicated by Perosomus Elumbis in an Angus Calf Associated with a Consanguineous Mating. Case Rep Vet Med. 2020 Feb 10;2020:6543037. doi: 10.1155/2020/6543037
- May ER, Helms AB, Kania SA. Genetics of the eumelanic coat color in Schipperkes. In: Proceedings from North American Dermatology Forum. (2017) 102; Orlando, FL

Presentations

- “Canine Brucellosis: What every breeder needs to know” Alyssa B Helms. AKC/CHF,TF Virtual Canine Breeder Excellence Seminar November 2020. Invited Speaker
- “The Seroprevalence of Brucellosis in Hog Hunting Dogs, Imported Dogs and Dogs Presenting for Spay and Neuter in the Southeastern United States.” Alyssa B. Helms. Society for Theriogenology/American College of Theriogenologists National meeting July 2020. MS Research Presentation/Speaker. (competitive case report submission)
- “Metastatic Ovarian Stromal Tumor in a young bitch” Alyssa B Helms, Elizabeth Frieden, Kayla Fowler, D. Phillip Sponenberg, Nam Joo Baik, Kemba S Clapp, Julie T Cecere. Society for Theriogenology/American College of Theriogenologists National meeting July 2019. Case Report Presenter/Speaker. (competitive case report submission)
- “Understanding Inheritance: Single Gene Diseases” Alyssa B. Helms. Canine Breeder Excellence Seminar at VMCVM. October 2018. Invited Speaker.

Awards and Academic Achievements

Phi Zeta Honors Society

Examination Graduate Committee

Major Advisor/Chair:

Julie Cecere, DVM, MS, DACT
Clinical Associate Professor- Theriogenology
Small Animal Clinical Sciences

Graduate Advising Committee Members:

Orsolya Balogh, DVM, PhD, DACT
JoAnne S. O'Brien Associate Professor of Theriogenology
Small Animal Clinical Sciences

Kevin K. Lahmers, DVM, PhD, DACVP
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Biomedical Sciences and Pathobiology

Clayton C. Caswell, PhD
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