

**BIOMEDICAL & VETERINARY SCIENCES  
GRADUATE PROGRAM**



**ANNOUNCES**

The Master of Science Seminar and Examination of

**Hannah R. Leventhal, DVM**  
**“Pharmacokinetics and pulmonary distribution of  
Draxxin ® (tulathromycin) in healthy adult horses”**

Tuesday, June 15th, 2021

9:00AM

Classroom 220, VMIA

Zoom link:

<https://virginiatech.zoom.us/j/85139731324?pwd=c3pBZExSbjdOcmFLV2RxVy9tNzkyUT09>

Meeting ID: 851 3973 1324

Passcode: 253478



## Bio

Originally from CO, Hannah attended Kansas State University, graduating with a Bachelor's of Science in Animal Science and an Equine Science Certificate. She then attended Kansas State University College of Veterinary Medicine, graduating with a Doctorate in Veterinary Medicine (DVM) in 2016. Following veterinary school graduation, Hannah completed a one year combined equine medicine/surgery and veterinary business internship at a private practice in NC. Upon completion of the equine internship, Hannah then moved to Lexington, KY and completed a one-year specialty fellowship in equine internal medicine at Hagyard Equine Medical Institute.

Immediately following the fellowship at Hagyard, Hannah moved to Blacksburg, VA for the large animal internal medicine residency at Virginia Maryland College of Veterinary Medicine. Throughout the residency, Hannah has seen a wide variety of cases and has enjoyed pursuing advanced training and further education in all areas of large animal internal medicine. After completing the large animal internal medicine residency and Master's degree from Virginia Tech in July 2021, Hannah will be moving across the country to begin the next adventure in private practice in the Reno, Nevada and is looking forward to exploring the Lake Tahoe area!

## **Funded by**

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## **Lay Language Abstract**

In human and veterinary medicine, antimicrobial drugs are a mainstay of treatment. Antimicrobials have been used for almost 100 years to prevent microbial organism infection, and as a treatment once there is an established infection. Although there are multiple “classes” of antimicrobials that have different spectrums of activity and mechanisms of action, antimicrobial resistance has become increasingly prevalent over time globally. The increasing rate of antimicrobial resistance has led to recommendations that human and veterinary medicine practitioners be more judicious in the use of these drugs and to prescribe antimicrobials to patients only when absolutely necessary. In equine medicine, there are additional challenges, including the administration method, frequency of administration, and availability and cost of antimicrobial drugs. Tulathromycin, a long-acting semi-synthetic macrolide, is an antimicrobial that is approved for use in cattle and swine and may have utility for equine patients for a variety of conditions. A study recently completed by our group in healthy adult horses demonstrated that tulathromycin was detectable in plasma and the respiratory tract for up to 5 days after single dose administration. Thus, tulathromycin may be a practical and affordable antimicrobial for use in equine patients.

## Publications

Douthit, T.L., **H.R. Leventhal**, S. Uwituze, M.Y. Halpin, A.L. Araujo-Lopes, J.S. Drouillard. *Megasphaera elsdenii* Attenuates Lactate Accumulation in Cultures of Equine Cecal Microorganisms Provided with Starch or Oligofructose. *Journal of Equine Veterinary Science* 74 (2019) 1-8.

Hines, E.S., V.B. Stevenson, M.E. Patton, **H.R. Leventhal**, N. Diaz-Portalatin, M.A. Meyerhoeffer, L.A. Dahlgren, D. Phillip Sponenberg. "Fibrous Osteodystrophy in a dromedary camel." *Journal of Veterinary Diagnostic Investigation*. October 2020.  
<https://doi.org/10.1177/1040638720965252>

**Leventhal, H.R.**, H.C. McKenzie, K. Estell, M. Council-Troche, J.L. Davis. Pharmacokinetics and pulmonary distribution of Draxxin® (tulathromycin) in healthy adult horses. *Journal of Veterinary Pharmacology and Therapeutics*. 2021; 00: 1-10.

**Leventhal, H.R.**, A.M. Hassebroek, F. Carvalho, H.C. McKenzie. Small intestinal pseudodiverticulosis in a pony mare. *Journal of Veterinary Diagnostic Investigation*. Accepted for publication spring 2021.

## Presentations

**31st Annual Research Symposium**-Virginia Maryland College of Veterinary Medicine March 25, 2021: Poster presentation-  
"Pharmacokinetics and pulmonary distribution of Draxxin® (tulathromycin) in healthy adult horses"

**VMCVM VTH Large Animal Resident Rounds Seminar**-Spring 2020  
February 13, 2020  
"Corynebacterium pseudotuberculosis in Large Animals"

**30th Annual Research Symposium-Virginia Maryland College of Veterinary Medicine November 6, 2019:**

Oral Presentation: "Effects of Tulathromycin (Draxxin ®) Administration to Horses"

Poster Presentation: "Lack of Absorption of Acetaminophen and Grapiprant in Adult Alpacas"

**VMCVM VTH Large Animal Resident Rounds Seminar-Fall 2019**

September 19, 2019

"Clostridium difficile in adult horses: it's not just antibiotic induced!"

**VMCVM VTH Large Animal Resident Rounds Seminar-Spring 2019 May**

9, 2019

"Equine Motor Neuron Disease"

**Virginia Maryland College of Veterinary Medicine-Student Chapter of the American Association of Equine Practitioners**

"Equine Neonates-what to know and when to refer" March 26, 2019

**VMCVM VTH Large Animal Resident Rounds-Fall 2018 December 20,**

2018

"Outbreak at a horse farm: Potomac Horse Fever On A Large Horse Farm"

### **Awards and Academic Achievements**

March 2019: Selected as a member of the VT Graduate Academy for Graduate Teaching Assistant Excellence (VT GrATE)

## Examination Graduate Committee

### **Major Advisor/Chair:**

Jennifer Davis, DVM, PhD, DACVIM (LAIM), DACVCP  
Associate Professor of Clinical Pharmacology  
Department of Biomedical Sciences and Pathobiology  
Virginia-Maryland College of Veterinary Medicine

### **Graduate Advising Committee Members:**

Katie E. Wilson, DVM, MS, DACVIM (LAIM)  
Clinical Assistant Professor of Large Animal Internal Medicine  
Department of Large Animal Clinical Sciences  
Virginia-Maryland College of Veterinary Medicine

Harold C. McKenzie, DVM, MS, MSc (Vet Ed), DACVIM (LAIM)  
Professor of Large Animal Internal Medicine  
Department of Large Animal Clinical Sciences  
Virginia-Maryland College of Veterinary Medicine

Christopher R. Byron, DVM, MS, DACVS (LA)  
Associate Professor of Large Animal Surgery  
Department of Large Animal Clinical Sciences  
Virginia-Maryland College of Veterinary Medicine

Krista Estell, DVM, DACVIM (LAIM)  
Clinical Assistant Professor of Equine Medicine  
Marion duPont Scott Equine Medical Center  
Leesburg, VA





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