



NIAMRRE Knowledge Exchange

Virtual Poster Sessions | July 27 - 31



Zoom Webinar Presentations July 30 and 31, 2020

Reducing antimicrobial use by adapting precision agriculture approaches & Promoting antimicrobial stewardship through integrated public outreach, extension and clinical training of health professionals

Session 1 Thursday, July 30, 2020, 10:00 am – 11:15 am CDT

Zoom link: <https://iastate.zoom.us/j/95813926289>

- A systematic review on probiotic supplementation for dairy calves - **Rubia Branco Lopes** and N. Silva-del-Río
- Comparing the Efficacy of Antibiotic Free Treatments for the Management Contagious Digital Dermatitis in Dairy Cattle - **Cassie Krebill**, Jan Shearer, H. Morgan Scott, Hans Bothe, Sebastian Umase, Emilio Iza, Ivan Sanabria, Emilio Iza, Jonatan Baron, Romina Hernandez, Romeo Hernandez, Paul Plummer
- Evaluation of heat and pH treatments on degradation of ceftiofur in whole milk - **Adriana Garzon**, Pramod Pandey, Lisa Tell, Sharif Aly, Richard Pereira
- Determination of the milk pharmacokinetics and depletion of milk residues following intramammary administration of cephalosporin sodium in lactating dairy goats - **Kristen Hayman**, Leo L. Timms, Jonathan P. Mochel, Paul J. Plummer, Patrick J. Gorden
- Addressing Communication Challenges about Antimicrobial Resistance: Insights from a National Institute of Animal Agriculture Workshop - **Andy King**, Dara M. Wald, Denise D. Coberley, & Michael F. Dahlstrom

Systems approaches to manage antimicrobial resistance

Session 2 Thursday, July 30, 2020, 1:00 pm – 2:15 pm CDT

Zoom link: <https://iastate.zoom.us/j/97789917192>

- Identifying Butyrogenic Bacteria in the Human Microbiome - **Rohan Bhargava**, Mark Gorelik, Alyssa Walker, Tony Romeo, Daniel M. Czyz
- Animal breed composition is associated with the hindgut microbiota structure and beta-lactam resistance in the multibreed Angus-Brahman herd - **Peixin Fan**, Corwin D. Nelson, J. Danny Driver, Mauricio A. Elzo, and Kwangcheol Casey Jeong
- Using Whole Genome Sequencing to Link Acquired Antibiotic Resistance Genes in Environmental Isolates to Clinical and Animal Associated Isolates - Zachery R. Staley, Linsey Donner, Wayne Matthews, Jodi Sangster, Shannon Bartelt-Hunt, **Xu Li**
- High prevalence and genomic characteristics of multi-drug resistant extended-spectrum β -lactamase-producing Escherichia coli in feral swine - **Ting Liu**, Shinyoung Lee, Raoul K. Boughton, Kwangcheol Casey Jeong
- Genomic Comparison Reveals Natural Occurrence of Clinically Relevant Multidrug-Resistant Extended-Spectrum- β -Lactamase-Producing Escherichia coli Strains – **Lin Teng**, Shinyoung Lee, Raoul K. Boughton, Kwangcheol Casey Jeong



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Improving treatment, clinical decision making and diagnostics related to antimicrobial resistance

Session 3 – Friday, July 31, 2020 10:00 am – 11:45 am CDT

Zoom link: <https://iastate.zoom.us/j/97741315810>

- Detection of Cephalosporin and Fluoroquinolone Resistance Genes via Novel Multiplex qPCR in Fecal Salmonella Isolates from Northern California Dairy Cattle, 2002-2016 - **Carl Basbas**
- Molecular Mechanisms of Clostridioides difficile Biofilm Formation - Kurt Piepenbrink and **Leslie A. Ronish**
- Tracking reservoirs of antimicrobial resistance genes in a complex microbial community using Hi-C ProxiMeta metagenome: the case of bovine digital dermatitis - **Ashenafi Beyi**, Alan Hassall, Gregory J. Phillips, Paul J Plummer
- Gastrointestinal pharmacokinetics and microbiological effects of different dosing regimens of danofloxacin administration in steers - **Jennifer Halleran**, H.J. Sylvester, M.E. Jacob, B.J. Callahan, T. Prange M.G. Papich, D.M. Foster
- Use of Antimicrobials in the Treatment of Calf Diarrhea: A Systematic Review - **Christian Bernal-Córdoba**, R. Branco-Lopes, M. de-Barros-Abreu, Erik D. Fausak, N. Silva-del-Río
- The structural basis for natural competence in Acinetobacter - Kurt Piepenbrink and **Yafan Yu**
- Using CRISPR-Capture to track antimicrobial resistance - **Kenneth Ringwald**, Patrick Degnan and Rachel Whitaker

Session 4 – Friday, July 31, 2020 1:00 pm – 2:30 pm CDT

Zoom link: <https://iastate.zoom.us/j/98968297994>

- Examining Modeling Approaches for Understanding Antimicrobial Resistance via Minimum Inhibitory Concentration - **Alec Michael**, Todd Kelman, Maurice Pitesky
- Effect of different fluoroquinolone (FQ) treatments and health status on the development of FQ resistance in calves colonized with either FQ-resistant or FQ-susceptible Campylobacter jejuni - **Debora Goulart**, Ashenafi Beyi, Samantha Wilson, Anastasia Schroeder, Melda Öcal, Mehmet Adiguzel, Zuowei Wu, Kritika Singh, Renee Dewell, Grant Dewell, Paul Plummer, Qijing Zhang, and Orhan Sahin
- Clostridium perfringens Adhesion Through Type IV Pili - Kurt Piepenbrink, **Alexander R. Meyer**, **Josie R. Liess**
- A Macrophage-based Screen Yields Host-targeting Modulators of Bacterial Uptake - **Autumn Dove**, Rohan Bhargava, Alyssa C Walker, Gustavo HB Maegawa, Daniel M Czyn
- Longitudinal effect of enrofloxacin or tulathromycin use in preweaned calves at high risk of bovine respiratory disease on the shedding of antimicrobial resistant fecal E. coli - **Richard Pereira**, Craig Altier, Julie D. Siler, Sabinne Mann, David Jordan, Lorin D. Warnick
- A Pilot Data Coordinating Center for Antimicrobial Resistance in Veterinary Medicine - **Amanda Kreuder**, Juliana Ruzante, Amir Karshenas, Rebecca Watkins, Jamie Cajka, Justine Allpress, Orhan Sahin, Dustin Loy, Paul Plummer