NC STATE UNIVERSITY

Comparative Medicine Institute

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Platelet lysate for the treatment of infectious arthritis

Research emphasis:

Dr. Gilbertie's central research interest is the development of novel therapeutics for the treatment of antimicrobial tolerant infections such as biofilms. Currently, she is investigating the antimicrobial, immunomodulatory, and chondroprotective properties of platelet-derived proteins to combat infectious arthritis. In order to explore these interactions, she has developed a unique *in vitro* model of infectious arthritis and is testing the efficacy of this therapy using an *in vivo* equine model of *S. aureus* infectious arthritis.

Applications:

- Biofilm infections
- *Staphylococcus aureus* pathogenesis
- Drug discovery
- Host-microbial interactions

Research Strengths:

- Protein purification
- Proteomics
- Microbial culture techniques
- Large animal models

Publications and Abstracts:

J.M. Gilbertie, T.P. Schaer, L.V. Schnabel. Platelet therapy to treat septic arthritis. ACVS Surgical Summit. 2017. Podium presentation.

J.M. Gilbertie, T.P. Schaer, L.V. Schnabel. Bacterial aggregation in equine synovial fluid shows morphological similarities to biofilm and increased antimicrobial recalcitrance *in vitro*. ASM Microbe. 2017. Poster presentation.

J.M. Gilbertie, T.P. Schaer. Utilizing the antimicrobial and immunolmodulatory properties of autologous platelet formulations to combat infectious arthritis *in vitro*. Orthopedic Research Society Annual Meeting. 2017. Podium Presentation.