**Title:** Transcriptome profiling of lesional and non-lesional skin in equine insect bite hypersensitivity using deep RNA sequencing

**Investigators:**
Frane Banovic, DVM PhD Dipl ECVD (Dermatology faculty)

If interested, please call the Small Animal Teaching Hospital at 706-542-3221 and ask to leave a message for Dr. Banovic or email fbanovic@uga.edu. Referring veterinarians may call the small animal referral coordinator at 706-542-5362.

**Study description:**
The purpose of this study is to determine the molecular phenotype and itch pathways of insect bite hypersensitivity (IBH), which is one of the most common types of allergic dermatitis in horses. To our knowledge, this is the first description of the use of next generation RNA sequencing in primary equine skin tissue to describe an inflammatory dermatologic disease.

Horses of any breed, that have seasonal symptoms of IBH (pruritus, papules, crusts) for two consecutive insect seasons may be enrolled. Withdrawal times for injectable, oral and topical glucocorticoids will be 6, 4 and 2 weeks respectively. Oral antihistamines must be withdrawn for 2 weeks before entering study.

Participation will consist of a one-time collection of 3 skin biopsies from affected horses (2 biopsies from lesional skin; one from normal skin as a control). Horses will be sedated with xylazine, and lidocaine will be administered subcutaneously to provide local anesthesia at biopsy areas. In addition, 1-2 teaspoons of blood will be collected from a jugular vein so that systemic biomarkers can be correlated with skin tissue biomarkers.

The study will pay for the costs of sedation, biopsy and subsequent analysis. Owners are responsible for costs of other diagnostics and treatment.

**Duration of study:**
The study is ongoing and will continue until enrollment is complete.

**Potential benefits to veterinary medicine:**
Comparative transcriptome analysis of equine IBH lesional skin specimens will identify pathogenic models of inflammatory cytokines and pruritogenic pathways as IBH disease drivers, with the potential of developing novel therapeutics for treatment.