



Gregory Krane, DVM



NCSU PhD Candidate  
Comparative Biomedical Sciences  
Pathology Focus

Toxicologic Pathology Fellow  
National Toxicology Program  
Research Triangle Park, NC

BS: Worcester Polytechnic Institute  
Biology & Biotechnology

DVM: Tufts University

#### Mentors:

- **Matthew Breen (NCSU)**
- **David Malarkey (NTP)**

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### One Health Approach to Carcinogenesis

#### Research emphasis:

In his dual roles as a toxicologic pathology fellow at the National Institute of Environmental Health Sciences' National Toxicology Program (NIH) and a PhD candidate at NCSU, Dr. Krane investigates the role environmental agents play in causing cancer. His dissertation research is part of a collaboration between the NCSU CVM, the NIEHS, and Duke Medical Center working towards elucidating causes of bladder cancer in both dogs and humans via exome sequencing. Dr. Krane seeks a career as an investigative toxicologic pathologist involved in drug discovery and safety assessment.

#### Applications:

- Genetic Sequencing
- Animal Models
- Carcinogenesis

#### Research Strengths:

- Anatomic Pathology
- Toxicologic Pathology
- Comparative Medicine

#### Publications and Abstracts:

Yang T, Ahmari N, Schmidt JT, Redler T, Arocha R, Pacholec K, Magee KL, Malphurs W, Owen JL, **Krane GA**, Li E, Wang GP, Vickroy TW, Raizada MK, Martyniuk CJ, Zubcevic J. Shifts in the gut microbiota composition due to depleted bone marrow beta adrenergic signaling are associated with suppressed inflammatory transcriptional networks in the mouse colon. *Frontiers in Physiology* (Accepted March 2017).

Ahmari N, Schmidt JT, **Krane GA**, Malphurs W, Cunningham BE, Owen JL, Martyniuk CJ, Zubcevic J. Loss of bone marrow adrenergic  $\beta$ 1 and 2 receptors modifies transcriptional networks, reduces circulating inflammatory factors, and regulates blood pressure. *Physiologic Genomics*. Vol 48(7); July 2016, 526-36.

**Krane GA**, Davis B, Beaty S, Boston S, Skinner O, Conway JA. Geomic detection of a cytologically confirmed mast cell tumor lymph node metastasis otherwise not detected by conventional histopathology. 2016. ACVP-ASCP Annual Meeting, New Orleans, LA.