Large Animal Models and Intestinal Disease

**Research emphasis:** Dr. Gonzalez’ research focuses on the use of large animal models (porcine and equine) to study intestinal disease with an emphasis on intestinal stem cell biology and ischemic injury. Ischemia causes mucosal epithelial injury that is observed in diseases such as neonatal necrotizing enterocolitis, volvulus, cardiopulmonary disease and hemorrhagic shock. The limitations of directly studying human disease in a clinical setting necessitates animal model use in order to expand basic science knowledge. Despite major research advances using murine models and increasingly accepted potential therapeutic benefits of stem cell or stem cell-targeted therapies, a greater level of physiological understanding is needed to make regenerative medicine a clinical reality. Large animal models provide a translationally relevant means to study pathophysiologic conditions and advance clinical therapies.

**Application:**
- Human/ veterinary intestinal disease
- Epithelial regeneration
- Novel therapeutics
- Tissue viability

**Collaboration potential:**
- Intestinal injury/repair
- Intestinal stem cells
- Markers of tissue viability
- Large animal model development

**Selected publications:** (limit 4)