

Biomedical Research Seminar Series

Speaker Announcement

Friday, Feb. 16, 2018 @ 3:30 pm

Domenici Hall, Room 109

(Refreshments served at 3:00)



Amy Navratil, PhD

*Assistant Professor
Department of Zoology & Physiology
University of Wyoming*

Knockin' on Fertility's Door: Understanding Gonadotrope Function

The anterior pituitary is the body's master gland. It contains 5 different endocrine cell types, one of which are gonadotrope cells. A primary role of gonadotrope cells is to coordinate pulsatile release of luteinizing hormone (LH). In females, a large acute surge in LH is obligatory for inducing ovulation and is mandatory for fertility in all mammals. My seminar will tell the story of how gonadotrope cells synthesize and secrete LH to regulate reproduction. First, I will discuss how gonadotrope cells activate intracellular signaling pathways, focusing on calcium, to induce epigenetic regulation of LH synthesis. More specifically, I focus on how a family of calcium dependent enzymes termed peptidylarginine deiminases (PADs), are critical for modifying histones to unspool DNA and ultimately increase LH gene expression prior to ovulation. After discussing LH synthesis, I next will detail how highly dynamic gonadotrope cells undergo directed mobilization towards vascular elements to facilitate LH secretion into peripheral circulation. Understanding mechanisms that regulate LH synthesis and secretion is critical both to our basic understanding of mammalian reproduction and for new clinical approaches for fertility management.

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For more information or to meet with the speaker please contact Ryan Ashley at ryashley@nmsu.edu