

Animal Science Student Researcher Presents Work on Ovarian Cells and Longevity

Lynnette Harris

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Each year during the Utah Legislature's general session, Research on Capitol Hill brings students from Utah State University and the University of Utah to present their work and demonstrate the value of undergraduate research to legislators and visitors to the capitol.

Kyleigh Tyler, who works with Associate Professor Jeff Mason in the Animal, Dairy and Veterinary Sciences Department (ADVS), was among the 26 USU students selected to participate in Research on Hill work with mentors from the College of Agriculture and Applied Sciences. Her poster presentation, *Germ Cell-Depleted Ovaries Increase Lifespan and Restore Health*, explores facets of previous studies that suggest ovarian function is correlated with increased lifespan.

In her abstract, Tyler explained how in many species, including humans, a decline in reproductive ability is associated with many deleterious health conditions. Some species maintain reproductive ability throughout life, and reproductive decline is often associated with the end of life. Ovary function seems to be correlated in longevity, but the roles of germ cells in ovaries—which contain half the number of chromosomes of somatic cells and are able to unite with a germ cell from the opposite sex to form a new individual—is not well understood. The work Tyler presented at the capitol described notable differences in the longevity of laboratory mice that had received transplanted ovaries with and without germ cells, and

differences in aspects of their health, such as metabolic activity, muscle composition and strength.

Mason said his lab's focus is on, "... an exciting research area at the boundary between reproductive function and age-associated disease risk. Our research utilizes reproductive manipulation, gene therapy, and pathology to address the basic understanding of the influence of the menopausal transition on the increase in disease risk in women and the controversies associated with clinical treatments for menopause.

Tyler said her experience presenting her work at the capitol was unique and exciting. "It was great to be with some colleagues from ADVS and to discuss the importance of our research with each other, with government officials and the public. We were also able to talk with President (Noelle) Cockett."

Mason said Tyler has worked as an undergraduate researcher in his lab since December 2016, and during that time he has seen impressive academic and scientific growth.

"Kyleigh has demonstrated extraordinary commitment to her work," Mason said. "She is a talented scholar who is pursuing significant and innovative research that will significantly contribute to advancing animal and human health."

Tyler said she became aware of research opportunities during her first semester at USU and sought out a research experience to help advance her career plans.

"My first lab experience was a good initial exposure to research, but did not match my interests," Tyler said. "I switched labs when I found my current position. My specific research topic honestly was just an opportunity that fell into my lap and serves as my Capstone/Thesis project for the University Honors Program. My experiences in the lab and in research in general have helped shape my future career as a veterinarian. I will be attending vet school at Ohio State University in the fall and plan to pursue a dual degree in preparation for a career in lab animal medicine and academia. I encourage students in the College of Ag to take all the opportunities they can while at USU, because each opportunity has the potential to shape their future.

Contact: Jeff Mason, jeff.mason@usu.edu | Kyleigh Tyler kyleightyler@gmail.com

Writer: Lynnette Harris, 435-797-2189, lynnette.harris@usu.edu