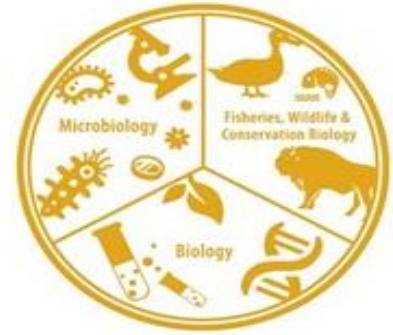




**KANSAS STATE**  
**UNIVERSITY**  
**Division of Biology**  
**presents:**



## **Germ cells sure can talk: gamete development in syncytia**

*Friday, October 27, 2017 • 4:00 • Ackert 221*

### **Lynn Cooley**

Professor of Cell Biology and of Molecular, Cellular & Developmental Biology  
Yale University

The formation of gametes from germline cells set aside early in embryogenesis is of fundamental importance to animal biology. Similarities between germ cell and stem cell biology make the study of gametogenesis even more broadly interesting. Our lab uses a powerful combination of genetics, microscopy, proteomics and biochemistry for investigating cellular mechanisms regulating egg and sperm development, using the fruit fly *Drosophila* as a model system.

A common feature from insects to humans of developing animal gametes is the presence of intercellular bridges called ring canals that allow cytoplasm to move between cells. During *Drosophila* egg development, ring canals are essential for oocyte patterning and growth. A major focus of the lab is to understand how female ring canals are made and maintained. I will report on our progress in elucidating mechanisms for regulating the actin cytoskeleton of ring canals, which involves tight regulation of F-actin recruitment by a Cullin3 RING ubiquitin ligase. The role of cytoplasm sharing through ring canals in males is less well understood. We are developing live imaging approaches to study the extent of intercellular movement during *Drosophila* spermatogenesis. I will present data showing diffusion of proteins between live spermatocytes, spermatogonial and elongating spermatids for the first time.

If you would like to visit with Dr. Lynn Cooley, please contact Jocelyn McDonald at [jmcdona@ksu.edu](mailto:jmcdona@ksu.edu). Dr. Cooley's visit is co-sponsored by the Division of Biology and KAWSE (K-State office for the Advancement of Women in Science and Engineering) through the ADVANCE Distinguished Lecture Series.

*Coffee & cookies served preceding the seminar in Ackert Hall, Room 225*