

Preconference Symposium

***In Vitro* Embryo Production Technologies Workshop**

Sunday, January 20, 2019, LSU AgCenter Research

Location

The Louisiana State University AgCenter Research Station located in St. Gabriel Louisiana, approximately 1 hour from New Orleans. Transportation will be available to the Station and back to the Sheraton New Orleans Hotel. Lunch will be provided.

Format

Limit of 45–50 participants, 4 available modules, with each participant choosing 2 of the available modules. Two rotations of approximately 3 hours each. Modules are as follows:

- Bovine OPU
- Bovine IVF and vitrification Laboratory
- Equine follicular aspiration
- Equine ICSI

The design is to have each module contain as much hands-on learning as possible with the following learning objectives for each.

Bovine OPU

Participants within each section of this module will learn the basics for the following techniques: OPU taught by Dr. André Dayan, Dr. Glenn England and Dr. Charles Looney; Oocyte handling and terminal harvesting taught by Jane H. Pryor.

- Ultrasound tract demonstration session with uterine tracts. Each participant will learn proper ultrasound transvaginal guide placement within the vagina utilizing the latest in ultrasound imagery.
- OPU – Each participant will learn the basics for ovum pick up with aspirate to be searched at the end of the OPU session.
- Oocyte searching – Participants will learn to identify oocytes morphologically, handle through washes, load and unload for transport.
- Terminal ovary slicing - Each participant will be given a terminal ovary removal protocol. In addition, participants will learn procedures for proper ovary handling, temperature and follicular oocyte aspiration utilizing two techniques for oocyte removal (syringe and blade).

Bovine IVF and Vitrification

Participants will learn the basics of bovine IVF and vitrification using commercially available reagents.

- Preparation of media and dishes for semen preparation, fertilization, and culture.
- Preparation of semen for fertilization using frozen semen.
- Movement of mature oocytes through the fertilization and culture steps.
- Movement of bovine oocytes, embryos, or both through vitrification solutions and placement and recovery from a vitrification device such as the Cryo Lok.

Equine Follicular Aspiration

Participants will learn the basics of ultrasound guided follicular aspiration of equine oocytes suitable of ICSI.

- Management of donor mares taking into account effects of follicle size, time of the year, and reproductive status (non-cycling, cycling, pregnancy).
- Demonstration of equipment (vacuum pumps, needles, and transducers) and media available for equine follicular aspiration.
- Preparation of mares for the aspiration procedures: choices for sedation, spasmolytic agents, and antibiotics.
- Basic procedure of follicular aspiration and recovery of aspirated oocytes.
- Tips for maximizing oocyte recovery.
- Considerations for storage and transport of retrieved oocytes.

Equine ICSI

Participants will learn basic steps and considerations for the performance of ICSI utilizing equine oocytes.

- Considerations for equine oocyte maturation.
- Sperm preparation; optimizing use of frozen semen.
- Setting up equipment and choice of microtools.
- ICSI technique (conventional, laser, or piezo drill assisted and troubleshooting common problems).
- Embryo culture systems (daily vs. intermittent checks).