

SESSION OVERVIEW

Chair: Dr. Donal C. Skinner

Speakers: Dr. Karin Albers-Wolthers, Dr. Sergio Ojeda, and Dr. Scott Struthers

UNIQUE APPROACHES TO THE CHALLENGE

Dr. Donal C. Skinner

Professor, Department of Zoology & Physiology, University of Wyoming

This session dealt with the need for the continued exploration of novel approaches to contraception. **Dr. Donal Skinner** introduced the session, highlighting that although there have been significant advances in contraception, most notably EsterilSol™ and Suprelorin®, the need to develop novel and persistent tools for contraception remains as strong as ever. Although EsterilSol is permanent, its effects on testosterone appear limited; this could limit behavioral changes (the precise role of testosterone in these behaviors remains unclear), which are often desired. On the other hand, Suprelorin is short-lived and requires repeated administration, limiting its use outside of the domesticated animal market. Both of these agents are currently marketed only for males, and a big gap remains for females. Gonacon is unlikely to be pushed to market due to EPA versus FDA regulations and, again, requires repeated administration. Gonacon inhibits reproduction and steroidogenesis and may be a useful tool in feral/free-ranging animals.

Dr. Karin Albers-Wolthers introduced the quite recently discovered neural peptide, kisspeptin, and described her team's basic physiological research on the effects of this RFamide on the stimulation of LH in the dog. These initial studies suggest that the dog is more sensitive to kisspeptin than other species, although studies to determine the ED₅₀ have not been performed yet.

Dr. Serjio Ojeda described pioneering research on the use of gene silencing technology to induce permanent contraception. This elegant presentation on a complex field described his team's ongoing research on suppressing kisspeptin expression in the brain. This novel approach, to permanently silence a gene, promises to be a real frontier in contraception that has the potential to be very target specific as silencing can be performed in a select population of neurons.

Dr. Scott Struthers detailed exciting research, in which his research team is targeting the gonadotropes through GnRH analogs attached to toxins. Although this approach has been attempted in the past (e.g. pokeweed antiviral protein), the novelty of Dr Struthers' approach is that they are systematically screening multiple toxins and determining their effects after conjugation to a GnRH analog. In addition, they are infusing the GnRH-toxin conjugate for a prolonged period, increasing the probability of eliminating most, if not all, gonadotropes. This high throughput approach promises to deliver a viable GnRH-toxin conjugate for the first time.