

Monday OOCYTES	Tuesday SPERM	Wednesday FERTILIZATION	Thursday CONTRACEPTION	Friday CONTRACEPTION
Welcome & Course Introduction 9:00 – 9:30 AM	Follicle, Culture, Ovulation 9:00 – 9:40 AM	Gamete Interaction I: Cumulus Penetration & ZP Binding 9:00 – 9:50 AM	Novel Approaches to Female Contraception I (non-hormonal) 9:00 – 9:50 AM	Novel Technologies for Contraceptive Target identification: High Throughput screening and bioinformatics. ID of genes regulating reproduction (genes exclusively expressed vs. highly expressed in reproductive tissues). What is a validated target? Target druggability. Safety and efficacy bars. 9:00 – 9:40 AM
Hypothalamus-Pit-Gonad-Axis-Male and Female-I 9:30 – 10:10 AM	Spermatogenesis & Sperm Organization 9:40 – 10:20 AM	Gamete Interaction II: ZP Penetration & Gamete Fusion 9:50 – 10:40 AM	Female Contraception II-Chronic vs. on-demand administration & safety profile 9:50 – 10:20 AM	CRISPR Technology and RNAi-based methods for gene silencing in gametes and embryos. 9:40 – 10:20 AM
Hypothalamus-Pit-Gonad-Axis-Male and Female – II 10:10 – 10:50 AM	Epidydimal Maturation & Sperm Transport 10:20 – 11:00 AM			
<b>Coffee Break 10:50 – 11:10 AM</b>	<b>Coffee Break 11:00 – 11:20 AM</b>	<b>Coffee Break 10:50 – 11:10 AM</b>	<b>Coffee Break 10:20 – 10:40 AM</b>	<b>Coffee Break 10:20 – 10:40 AM</b>
Folliculogenesis& Oogenesis 11:10 – 11:50 AM	Concepts of Sperm Capacitation and Physiological Implications: Sperm Metabolism & motility, AR & Hyperactivation 11:20 AM – 12:15 PM	Egg Activation 11:10 – 11:50 AM	Male Contraception (Horm. & Non-Horm.) Chronic vs. on-demand, administration & safety profile & Pros/Cons of Testicular vs sperm function targets. 10:40 – 11:20 AM	Conducting Responsible and Reproducible Reproductive Research 10:40 – 11:20 AM
Oocyte Maturation & Structure 11:50 AM – 12:30 PM		Early Events of Embryo Development 11:50 AM – 12:30 PM	Human Semen Manipulation & Clinical Approaches- Validation of lab endpoints across sites for clinical trials 11:20 AM – 12:00 PM	Road to Intellectual Property Workshop or Gates Foundation/Grant writing Workshop. How to ensure Global Access?

Monday OOCYTE MANIPULATION	Tuesday SPERM MANIPULATION	Wednesday IVF	Thursday HUMAN SEMEN	Friday ADVANCED TECHNIQUES IN SEMEN ASSESSMENT
2:00 – 6:00 PM	2:00 – 6:00 PM	2:00 – 6:00 PM	2:00 – 6:00 PM	2:00 – 6:00 PM
Oocyte Recovery from the Oviduct	Sperm Collection & Sperm Morphology in Different Species	Observation of Different Stages of Fertilization & Egg Activation	<b>Follicular Culture:</b> isolate & culture secondary ovarian follicles  LAB Extends All Afternoon	<b>Basis of Fluorescence Microscopy and Cytometry</b>  FACSCan
Oocyte Preparation for Fertilization: Removal of Cumulus & ZP		Intrauterine Insemination		
Observation of Oocytes		Management of Mouse Colonies		
Cycling of Females for Insemination	Sperm Capacitation: Evaluation of Sperm Hyperactivation & Acrosome Reaction			