SCIENTIFIC PROGRAM

生殖生物学前沿研讨会（2024 年 10 月 21 日）

注册：10 月 21 日 9:00-12:30

10 月 21 日下午（13:00 – 17:00）			
13:00 – 13:30 开幕式 主持人：王红梅 研究员 （中国科学院动物研究所） 李 伟 研究员 （中国科学院动物研究所）			
时间	**报告人**	**单位**	**报告题目**
13:30-14:10	季维智院士	昆明理工大学	灵长类早期胚胎发育调控和疾病发生机制研究
14:10-14:50	黄荷凤院士	浙江大学	Healthy Life Trajectories Initiative：the Life tree study
14:50-15:30	李劲松院士	中国科学院分子细胞科学卓越创新中心	半克隆技术的建立与应用
15:30-16:10	张 宏院士	中国科学院生物物理研究所	多细胞生物自噬起始的分子机制
16:10-16:50	高绍荣院士	同济大学	胚胎与干细胞类胚胎发育研究

The 6th Symposia on Frontiers in Reproductive Biology, SFRB 2024

22- 25 October, 2024

22 October			
08:30 – 09:00 Opening Ceremony Chair: Wei Li (Institute of Zoology, CAS)			
Session 1：Germ Cell and Niche			
Morning Chair: Youqiang Su (Shandong University) Kehkooi Kee (Tsinghua University)			
Time	**Speaker**	**Affiliation**	**Topic**
9:00-9:25	Martin Matzuk	Baylor College of Medicine, USA	DNA-Encoded chemistry technology for the development of drugs for reproductive health
9:25-9:50	Qing-Yuan Sun	Reproductive Medicine Center, Guangdong Second Provincial General Hospital	The functions and related mechanisms of RNA G-quadruplex in female reproduction
9:50-10:15	Wei Yan	University of California Los Angeles, USA	miRNA control of male reproductive fitness

10:15-10:40	Break		
10:40-11:05	Jan-Bernd Stukenborg	Karolinska Institute and University Hospital, Sweden	Assessing male gonadal function In vitro following cancer treatment in young patients
11:05-11:30	Jingtao Guo	Institute of Zoology, CAS	Human gonadal development and male infertility
11:30-11:50	Poster Flash Talk		
11:30-11:35	Yiqian Gui	Huazhong University of Science and Technology	The Essential Role of Kdm2a in Sertoli Cell Function via Retinoic Acid Regulation in the Testicular Microenvironment
11:35-11:40	Shiya Cheng	Wuhan University	Translational control of oocyte prophase arrest
11:40-11:45	Liji You	Shandong University	Spatiotemporal regulation of the ribonuclease activity of MARF1 by p-body core component EDC4 in mouse oocytes
11:45-11:50	HaiYang Wang	National University of Singapore	Rejuvenation of aged oocyte through exposure to young follicular microenvironment
Afternoon **Chair: Xuejiang Guo (Nanjing Medical University)** **Heng Pan (Peking University Third Hospital)**			
13:30-13:55	Diana Laird	UCSF, USA	Unexpected dynamics of oocyte growth
13:55-14:20	Lei Wang	Fudan University	The mechanisms of spindle assembly in human oocytes
14:20-14:45	Michael Buszczak	UT Southwestern, USA	Mechanisms that promote chromosome stability in germ cells
14:45-15:10	Zhi Zhou	ShanghaiTech University	The testicular microenvironment and its impact on male health
15:10-15:30	Break		
15:30-15:55	Chun So	National Institute of Biological Sciences, Beijing	Molecular mechanism of chromatin reorganization during mammalian oocyte development
15:55-16:20	Yan Yuan	Nanjing Medical University	Potential clinical value of in vitro spermatogenesis
16:20-16:45	Stefan Schlatt	University Münster, Germany	Sperm from stem cells: How can we best mimic the testicular microenvironment?
16:45-17:10	Qinghua Shi	University of Science and Technology of China	Genetic basis of meiotic abnormalities in NOA patients
17:10-17:30	Poster Flash Talk		
17:10-17:15	Xiaoyan Wang	Institute of Zoology, CAS	Decoding the Pathogenesis of Spermatogenic Failure in Cryptorchidism through Single-Cell Transcriptomic Profiling
17:15-17:20	Ying Tian	Capital Medical University	CCDC41 Facilitates the Spindle Assembly, Migration and Meiotic Progression by Modulating Lysosomal Function and Vesicle Fusion in Mouse Oocytes
17:20-17:25	Yongliang Shang	Shandong University	LIN54 and TESMIN form two distinct complexes

			with MuvB subunits to regulate meiosis progression
17:25-17:30	Xiaoyuan Song	University of Science and Technology of China	LncRNA Synage safeguards sperm quality through two pathways by brain- and testis-specific isoforms

23 October			
Session 2：Embryo and Embryoid			
Morning **Chair: Qiutan Yang (Institute of Zoology, CAS)** **Zhi Zhou (ShanghaiTech University)**			
Time	**Speaker**	**Affiliation**	**Topic**
8:30-8:55	Nicolas Plachta	University of Pennsylvania, USA	Imaging how the mammalian embryo forms
8:55-9:20	Jun Wu	UT Southwestern, USA	Developing increasingly complex human embryo-like structures using stem cells
9:20-9:55	Wei Xie	Tsinghua University	Decoding the transcription circuitry in early mammalian development
9:55-10:20	Break		
10:20-10:45	Cantas Alev	Kyoto University, Japan	Towards reconstructing human axial development in vitro
10:45-11:10	Peng Du	Peking University	Capturing totipotent stem cells
11:10-11:35	Xiaoyang Zhao	Southern Medical University	Male germ cell development and regeneration
11:35-11:55	Poster Flash Talk		
11:35-11:40	Shuhui Bian	Nanjing Medical Univerisity	SMARTdb: A comprehensive online platform for exploring single-cell multi-omics data of reproductive medicine
11:40-11:45	Kexin Zou	Fudan university	Paternal circadian rhythm disorder impairs cognition in offspring via sperm microRNAs
11:45-11:50	Lin Li	Southern Medical University	Single-cell multi-omics profiling of human preimplantation embryos identifies cytoskeletal defects during embryonic arrest
11:50-11:55	Arun Pandian Chandrasekaran	King Abdullah University of Science and Technology	DMSO-induced blastoid model reveals mechanisms of cavitation in human embryogenesis
Afternoon **Chair: Shun Zhang (Institute of Zoology, CAS)** **Keliang Wu (Shandong University)**			
13:30-13:55	Yasuhiro Takashima	Kyoto University, Japan	Naive human PSCs model pre- to post-implantation development

13:55-14:20	Leqian Yu	Institute of Zoology, CAS	Embryo 3D reconstruction and embryo models: get a glimpse of the human gastrulation
14:20-14:45	Zhen Liu	Center for Excellence in Brain Science and Intelligence Technology, CAS	Monkey cloning, chimera and embryo model
14:45-15:05	Break		
15:05-15:30	Ivan Bedzhov	Max Planck Institute for Molecular Biomedicine, Germany	Cellular mechanisms of embryonic development and dormancy
15:30-15:55	Zhikun Li	Institute of Zoology, CAS	Generation of bi-paternal offspring by direct modifying imprinted genes in mammals
15:55-16:20	Jose Silva	Guangzhou Laboratory, China	Induced cell plasticity enables the generation of high-fidelity mouse and human post-implantation embryo models
16:20-16:40	Poster Flash Talk		
16:20-16:25	Yiding Zhao	Nankai University	Capture of totipotency in mouse embryonic stem cells in absence of Pdzk1
16:25-16:30	Yixuan Wu	Peking University Third Hospital	The role of RRS1 in human arrested embryos caused by ribosomal defects
16:30-16:35	Zian Liao	Baylor College of Medicine	Deciphering the molecular mechanisms of SMAD proteins in the female reproductive tract
16:35-16:40	Yangcan Chen	Institute of Zoology, CAS	All-RNA-mediated targeted gene integration in mammalian cells with rationally engineered R2 retrotransposons

24 October			
Session 3：Implantation, Placenta and Pregnancy			
Morning **Chair: Lu Gao (Naval Medical University)** **Yan Li (Shandong University)**			
Time	**Speaker**	**Affiliation**	**Topic**
8:30-8:55	Peter Rugg-Gunn	Babraham Institute, UK	New cellular models to study early human embryo and trophoblast development
8:55-9:20	Shyh-Chang Ng	Institute of Zoology, CAS	A multi-tissue metabolome atlas of primate pregnancy
9:20-9:55	Joshua Brickman	University of Copenhagen, Denmark	Wind in their hair and they remember all too well - how transcription factors encode cellular memory in the extra-embryonic endoderm to enable embryonic regeneration
9:55-10:20	Break		
10:20-10:45	Yang Xia	Xiangya Hospital, Central South University	Autoimmune and immunometabolism in preeclampsia

10:45-11:10	Shuangbo Kong	Xiamen University	Embryonic signals regulate endometrial cell differentiation during the peri-implantation stage
11:10-11:35	Lijun Ding	Nanjing Drum Tower Hospital	Development of human uterus: new insights from single-cell sequencing
11:35-11:55	Poster Flash Talk		
11:35-11:40	Qianqian Li	Institute of Zoology, CAS	The glucolipid metabolic rewiring of human placental trophoblast cells during syncytial differentiation
11:40-11:45	Weinan Deng	Guangzhou Medical University	CASP3/GSDME-Mediated Trophoblast Pyroptosis Promotes M1 Macrophage Polarization and Systemic Inflammation in EOPE
11:45-11:50	Mo Li	King Abdullah University of Science & Technology	Large-scale Generation of Human Blastoids from Single Cells in stable physiological environment in stirred-tank Bioreactors and Mechanisms of Human Cavitation
11:50-11:55	Ziyao Yang	The First Affiliated Hospital of Zhengzhou university	Regulatory role of Hippo-YAP signaling pathway on the physiology and pathology of human endometrium during menstruation
Afternoon **Chair: Yunfang Zhang (Tongji University)** **Tuo Wei (Institute of Zoology, CAS)**			
13:30-13:55	Amanda Sferruzzi-Perri	University of Cambridge, UK	Placental determinants of pregnancy outcomes in the context of the obesity epidemic
13:55-14:20	Han Zhao	Shandong University	Genetic and Epigenetic Inheritance of Reproductive-Metabolic Disorders
14:20-14:45	Bin Cao	Xiamen University	Multifaceted role of endogenous retroviruses in mammalian placental development
14:45-15:10	Chao-Po Lin	Shanghai University of Science and Technology	Establishment and application of novel trophoblast organoids
15:10-15:30	Break		
15:30-15:55	Zhenyu Xiao	Beijing Institute of Technology	Unraveling mammalian placental development via human, non-human primate and mouse models
15:55-16:20	Xin Li	Institute of Zoology, CAS	Deciphering universal gene regulatory mechanisms with foundation model
16:20-16:45	Thorold Theunissen	Washington University School of Medicine, USA	Building Human Embryo and Placenta Models From Naïve Stem Cells
16:45-17:05	Poster Flash Talk		
16:45-16:50	Wencheng Zhu	Center for Excellence in Brain Science and Intelligence Technology, CAS	Comparative proteomic landscapes provide insights into mammalian preimplantation development
16:50-16:55	Jiaxin Li	Peking university Third hospital	Fenofibrate improves placental lipid metabolism disorder and selective intrauterine growth restriction via the PPARα-CPT2 axis.

16:55-17:00	Feng Qiao	Nantong university	Volume electron microscopy (vEM) uncovers the spatial microvesicles in epididymal epithelial cells
17:00-17:05	Long Yan	Institute of Zoology, CAS	5-methylcytosine promotes the physiogenesis of ovarian aging through stabilizing FBLN1 mRNA

25 October			
Session 4：New Technologies in Reproductive Biology			
Morning **Chair: Junchao Shi (Beijing Institute of Genomics, CAS)** **Albert Wu Cheng (Institute of Zoology, CAS)**			
Time	**Speaker**	**Affiliation**	**Topic**
8:30-8:55	Jose Polo	Monash University, Australia	Understanding human reprogramming: A journey from epiblast to trophoblast and into iblastoids.
8:55-9:20	Fuchou Tang	Peking University	Dissecting the epigenetic regulation mechanisms of mammalian germline development
9:20-9:55	Lynn Zechiedrich	Baylor College of Medicine, USA	“Cracking” the secondary codes that control access to the primary code of DNA
9:55-10:20	Break		
10:20-10:45	Peng Yuan	Peking University Third Hospital	The X chromosome dosage control during human embryo and germ cell development
10:45-11:10	Haoyi Wang	Institute of Zoology, CAS	Development of novel gene editing tools using a data-driven approach
11:10-11:40 **Announcement of Best Poster Awards** **Closing Remarks**			