



# The XXVIIth North American Testis Workshop

"Celebrating Inspiring and Inspired Testis Biology"

May 2-5, 2024

Embassy Suites Denver Downtown • Denver, Colorado

## SCHEDULE AT A GLANCE

Chair: Kate Loveland, PhD | Vice Chair: Robert Viger, PhD

All sessions will be located in the Crystal Ballroom (3rd Floor) unless otherwise noted. Not CME Accredited.



### THURSDAY, MAY 2, 2024

4:00 pm – 8:30 pm	Registration/Information Desk Open <i>Crystal Foyer</i>
6:00 pm – 6:15 pm	Welcome and Opening Remarks <i>Program Chair: Kate L. Loveland, PhD - Hudson Institute of Medical Research and Monash University - Melbourne, Australia</i>
6:15 pm – 7:15 pm	<b>KEYNOTE ADDRESS</b> Studying Neglected Cell Populations of the Developing Testis and Their Functions <i>Serge Nef, PhD - Université de Genève - Geneva, Switzerland</i>
7:15 pm – 9:00 pm	<b>Testis Workshop Welcome Reception</b> <i>Crestone Foyer</i>

### FRIDAY, MAY 3, 2024

7:30 am – 6:00 pm	Registration/Information Desk Open <i>Crystal Foyer</i>
8:00 am – 8:55 am	<b>BENCHMARK LECTURE I</b>
8:00 am	Introduction <i>Chair: Marie-Claude Hofmann, PhD - MD - Anderson Cancer Center - Houston, TX</i>
8:05 am	Transcriptional Regulation of Germline Genesis and Neuronal Fate: From Development to Disease <i>Renee Reijo-Pera, PhD - McLaughlin Research Institute - Great Falls, MT</i>
8:55 am – 11:25 am	<b>SESSION I: CANCER AND GENOME INTEGRITY IN THE TESTIS</b>
8:55 am	Introduction to Session I <i>Chairs: Klementina Fon Tacer, DVM, PhD - Texas Tech University School of Veterinary Medicine - Amarillo, TX Georgia Rae Atkins, BS - University of Pittsburgh School of Medicine - Pittsburgh, PA</i>
9:00 am	<b>EMERGING SCIENCE/RESEARCH LEADER SPOTLIGHT TALK I</b> Contributions of Cancer/Testis Antigens to Neoplastic Behaviors <i>Angelique W. Whitehurst, PhD - UT Southwestern Medical Center - Dallas, TX</i>
9:35 am	Telomeres in Cancer and Spermatogenesis <i>Steven Artandi, MD, PhD - Stanford University School of Medicine - Stanford, CA</i>
10:05 am	Break
10:25 am	De Novo Mutations and Human Disease: The Impact of Sex, Age, Competition and Selfishness <i>Anne Goriely, PhD - University of Oxford - United Kingdom</i>
10:55 am	Short Talk #1: Ras/MAPK Pathway Genes in Testis Development and Function <i>Maris Laan, PhD</i>
11:10 am	Short Talk #2: Identification of New Human Spermatogonial Subpopulations <i>Chiara Capponi, PhD</i>
11:25 am – 12:15 pm	<b>Flash Talks I</b> (up to 3-minute preview of upcoming Posters) <i>Moderators: Yixuan Guo, PhD - University of Utah - Salt Lake City, UT Victor Ruthig, PhD - Weill Cornell Medicine - New York, NY</i>
	Poster 01: Development of an AI-based Mouse Spermatogenesis Staging System <i>Masahito Ikawa, PhD</i>
	Poster 03: Spatiotemporal Expression Profile of ARRDC5 in Mouse Spermatogenesis <i>LeeLa Robinson, BS</i>
	Poster 05: Exploring The Role Of De Novo Germline and Somatic Mutagenesis In Male Subfertility <i>Jason Kunisaki, BA</i>



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### FRIDAY, MAY 3, 2024 (continued)

	Poster 07: Genistein Impacts Immature Murine Sertoli Cell Functions via Multiple Signaling Pathways <i>Nicole Mohajer, BS</i>
	Poster 09: Testicular Histopathology and its Association to Semen Quality and Serum Concentrations of Reproductive Hormones in 1400 Patients <i>Gülizar Saritas, MS</i>
	Poster 11: Cannabinoid Effects on Male Reproductive Function: A Comparative Analysis of 2D Cell Culture and 3D Human Testis Organoid Models <i>Megan Escott, MD, MS</i>
	Poster 13: Tex11 Mutant Mouse Models of Human Azoospermia <i>Georgia Rae Atkins, BS</i>
	Poster 15: Identifying the Function of Mouse ZFY in the Male Germline <i>Hayden Holmlund, BS</i>
	Poster 17: A Novel Ddx4-Dependent iDT-A Transgenic Mouse Facilitates Germline-Restricted Lineage Ablation <i>Zachary Jordan, MS, PhD</i>
	Poster 19: Cop9 Signalosome Complex Subunit 5 (COPS5) is Essential for Sertoli Cell Function and Male Fertility in Mice <i>Tao Li, MD</i>
	Poster 21: Development of Organoids with Seminiferous Tubule-Like Structure and Complete Spermatogenesis in 3D In Vitro Culture System From Immature Mice <i>Mahmoud Huleihel, PhD</i>
	Poster 23: Alternative Splicing Alters the Male Germ Cell Splice-ome at Cell Cycle Arrest and Meiotic Transition Points <i>Victor Ruthig, PhD</i>
	Poster 25: Electrophysiological Insights into Ionic Conductivity of Noncapacitated Versus Capacitated Mice Spermatozoa <i>Dilip Swain, PhD, VMD</i>
	Poster 27: Identification of Activin A Target Genes in Testicular Germ Cell Tumours <i>Sarah Moody, PhD</i>
	Poster 29: SATINN v.2: Automated Quantification of Mouse Testis Histology and Spermatogenic Mutant Analysis <i>Ran Yang</i>
	Poster 31: Fast Detection of Testicular Defect in Mouse Mutants via Enhanced Deep Learning System with Interaction Learning <i>Eugene Xu, PhD</i>
12:15 pm – 1:30 pm	LUNCH ON YOUR OWN
1:30 pm – 4:00 pm	<b>SESSION II: NOVEL MODELS, TOOLS, AND MOLECULES IN THE STUDY OF TESTIS BIOLOGY</b>
1:30 pm	Introduction to Session II <i>Chairs: Richard Cardullo, PhD - University of California, Riverside, CA, Dilip Swain, PhD, VMD - Washington University - St. Louis, MO</i>
1:35 pm	<b>EMERGING SCIENCE/RESEARCH LEADER SPOTLIGHT TALK II</b> Modeling Human Testes with iPSCs and in Organoids <i>Philip Jordan, PhD Uniformed Services University of the Health Sciences - Bethesda, MD</i>
2:10 pm	PANDORA-seq: Revolution in Tools to Explore the Small RNA Universe <i>Qi Chen, MD, PhD - University of Utah School of Medicine - Salt Lake City, UT</i>
2:40 pm	BREAK
3:00 pm	The Involvement of piRNAs in Male Infertility <i>Kristian Almstrup, MSc, PhD - University of Copenhagen - Denmark</i>
3:30 pm	Short Talk #3: Germline-specific Lineage Tracing Enabled by a Novel Ddx4-Dependent FIEx Inversion Transgenic Mouse Line <i>Ndifereke Uboh, BS</i>
3:45 pm	Short Talk #4: Somatic-Germ Cell Signaling and Gene Regulatory Networks Revealed by Single-Cell Multiomic Comparison of Fertile and Infertile Mice <i>Eoin Whelan, PhD</i>
4:00 pm – 6:00 pm	Poster Session I <i>Crestone Ballroom</i>



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### SATURDAY, MAY 4, 2024

7:30 am – 6:00 pm	Registration/Information Desk Open <i>Crystal Foyer</i>
8:00 am – 8:55 am	<b>BENCHMARK LECTURE II</b>
8:00 am	Introduction <i>Chair: Jannette Dufour, PhD - Texas Tech University Health Sciences Center - Lubbock, TX</i>
8:05 am	Immunobiology of the Testis <i>Andreas Meinhardt, PhD - Justus Liebig University Giessen - Germany</i>
8:55 am – 11:25 am	<b>SESSION III: THE TESTIS - BRAIN CONNECTION</b>
8:55 am	Introduction to Session III <i>Chairs: Miles Wilkinson, PhD - University of California, San Diego, CA, Penny Whiley, PhD - Hudson Institute of Medical Research - Clayton, Australia</i>
9:00 am	<b>EMERGING SCIENCE/RESEARCH LEADER SPOTLIGHT TALK III</b> Functional Significance of Importin Alpha in the Testis and Brain <i>Yoichi Miyamoto, PhD - National Institutes of Biomedical Innovation, Health and Nutrition (NIBIOHN) - Japan</i>
9:35 am	Amyloids: Structures and Roles in the Male Tract and Brain <i>Gail Cornwall, PhD - Texas Tech University Health Sciences Center - Lubbock, TX</i>
10:05 am	BREAK
10:25 am	Stress and Neurodevelopmental Disease Connection to Germline and Reproduction <i>Tracy Bale, PhD - University of Colorado - Aurora, CO</i>
10:55 am	Short Talk #5: Normal Embryo Development Needs MEIG1/PACRG-Mediated Sperm Formation <i>Opeyemi Dhikhirullahi, BS</i>
11:10 am	Short Talk #6: Spatial Organization of mRNAs and Translation Sites in Mouse Sertoli Cells <i>Ana Cristina Lima, MS, PhD</i>
11:25 am – 12:15 pm	<b>Flash Talks II</b> (up to 3-minute preview of upcoming Posters) <i>Moderators: Sarah Moody, PhD - Hudson Institute of Medical Research - Clayton, Australia, Gunapala Shetty, PhD - University of Texas M.D. Anderson Cancer Center - Houston, TX</i>
	Poster 02: Evaluation of RBM46 as a Male Contraceptive Drug Target <i>Brian Hermann, PhD</i>
	Poster 04: Stress Alterations of Extracellular Vesicle Cargo Increases Sperm Motility in Mice and Men <i>Nickole Moon, BA</i>
	Poster 06: Primary Cilia in the Neonatal Porcine Testis <i>Nathalia Lima Martins Lara, PhD</i>
	Poster 08: Platelet-Derived Growth Factor Signaling in the Immature Porcine Testis <i>Anja Elsenhans</i>
	Poster 10: An Unexpected Metabolic Switch Occurs During the First Meiotic Prophase of Spermatogenesis <i>Nina Mayorek, PhD</i>
	Poster 12: Investigating Mitochondrial Dynamics in Spermatozoa: Implications for Male (in/sub) Fertility <i>Isidora Keselj, PhD</i>
	Poster 14: Protection of Spermatogonial Stem Cells Against Chemotherapy by Modulation of FGF Action <i>Gunapala Shetty, PhD</i>
	Poster 16: Role of Intraflagellar Transport Protein IFT20 in the Formation and Function of Motile Cilia in Mammals <i>Mohammad Abdulghani, BA</i>
	Poster 18: Two Mouse Spag6 Genes Coordinate to Control Sperm Formation and Male Fertility <i>Wei Li, MD</i>



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### SATURDAY, MAY 4, 2024 (continued)

	Poster 22: Maintenance of the Adult Spermatogonial Pool Requires the Nuclear Transport Factor, Importin 5 <i>Penny Whiley, PhD</i>
	Poster 24: Proteomic Characterization of Functional Amyloid Structures in the Acrosome of Mammalian Spermatozoa <i>Nathaly Cormier, MS, PhD</i>
	Poster 26: Deciphering the Role of Interferon Epsilon as an Anti-viral Agent in the Testis <i>Mark Hedger, PhD</i>
	Poster 28: Lats1/2 are Essential for Mature Sertoli Cell and Rete Testis Function in Mice <i>Laureline Charrier</i>
	Poster 30: Successful Generation of Gonadal-Somatic Cells-Like Cells and Organoids From Mouse Embryonic Stem Cells <i>Umesh Kumar, PhD</i>
	Poster 32: Single-cell RNA Sequencing of PFAS Exposed Mice Testes - Preliminary Study <i>DruAnne Maxwell, BS</i>
12:15 pm – 1:30 pm	LUNCH ON YOUR OWN
12:15 pm – 1:30 pm	Testis Workshop Executive Committee Meeting <i>Aspen</i>
1:30 pm – 4:00 pm	<b>SESSION IV: ENVIRONMENTAL INFLUENCES ON TESTIS DEVELOPMENT AND FUNCTION</b>
1:30 pm	Introduction to Session IV <i>Chairs: Barbara Hales, PhD - McGill University - Montreal, Canada, Nickole Moon, BA - University of Maryland - Baltimore, MD</i>
1:35 pm	<b>EMERGING SCIENCE/RESEARCH LEADER SPOTLIGHT TALK IV</b> Disrupting Male Inheritance: From Early Exposure to Molecular Effects <i>Geraldine Delbes, PhD - National Institute of Scientific Research (INSR) - Quebec, Canada</i>
2:10 pm	Impacts of Gestational Phthalate Exposure on Seminiferous Cord Development <i>Daniel Spade, PhD - Brown University - Providence, RI</i>
2:40 pm	BREAK
3:00 pm	Epigenetic Priming and Programmed Differentiation in the Male Germline <i>Satoshi Namekawa, PhD - University of California, Davis - Davis, CA</i>
3:30 pm	Short Talk #7: Aging of Sperm Methylome: Molecular Mechanisms and Modulation by Environmental Factors <i>Alexander Suvorov, PhD</i>
3:45 pm	Short Talk #8: Single-cell RNA Sequencing and Metabolic Analysis of Testis Reveal Potential Underlying Mechanisms of Age-Dependent Male Fertility Decline <i>Morgan Feuz, MS</i>
4:00 pm – 6:00 pm	Poster Session II <i>Crestone Ballroom</i>



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### SUNDAY, MAY 5, 2024

8:00 am - 12:00 pm	Registration/Information Desk Open <i>Crystal Foyer</i>
8:30 am - 9:25 am	<b>BENCHMARK LECTURE III</b>
8:30 am	Introduction <i>Chair: Robert Viger, PhD - Université Laval - Québec, Canada</i>
8:35 am	Understanding Leydig Cell Differentiation and Function Using New Leydig Cell-exclusive Transgenic Mouse Lines <i>Jacques J. Tremblay, PhD - Université Laval - Québec, Canada</i>
9:25 am - 12:30 pm	<b>SESSION V: MECHANISTIC SWITCHES AFFECTING MALE GERMLINE FATE</b>
9:25 am	Introduction to Session V <i>Chairs: Robin Hobbs, PhD - Hudson Institute of Medical Research, Melbourne Australia, Jason Kunisaki, BA - University of Utah - Salt Lake City, UT</i>
9:30 am	<b>EMERGING SCIENCE/RESEARCH LEADER SPOTLIGHT TALK V</b> What Regulates Spermatogonial Entry into Meiosis? <i>Chris Geyer, PhD - East Carolina University - Greenville, NC</i>
10:05 am	BREAK
10:25 am	Stem and Niche Cells in the Drosophila Testis <i>Erika Matunis, PhD - Johns Hopkins University - Baltimore, MD</i>
10:55 am	Understanding the Unique Transcriptional Environment of the Mammalian Testis <i>Paula Cohen, PhD - Cornell University - Ithaca, NY</i>
11:25 am	Short Talk #9: The Role of Core-Binding Factor Subunit- $\beta$ (CBF $\beta$ ) and Runt-Related Transcription Factor (RUNX) Family in Balancing Fate During Prepubertal Male Germline Development <i>Mustika Rahmawati, BS</i>
11:40 am	Short Talk #10: Regulation of Mouse Spermatogenesis by the Intercellular Bridge Protein TEX14 <i>Devanshi Jain</i>
11:55 am	Update from the NIH, NICHD <i>Travis Kent, PhD - NIH, NICHD - Bethesda, MD</i>
12:10 pm	Concluding Remarks & Acknowledgments <i>2024 Program Chair: Kate Loveland, PhD - Hudson Institute of Medical Research and Monash University - Melbourne, Australia</i>
12:20 pm	Announcement of the XXVIIIth North American Testis Workshop <i>2026 Program Chair: Robert Viger, PhD - Université Laval - Québec, Canada</i>