



ORGANIZATION FOR THE
STUDY OF SEX DIFFERENCES

Founded by the Society for Women's Health Research

2021 Virtual Meeting of the Organization for the Study of Sex Differences Detailed Program

Monday May 3rd

Open Networking Time Available Online Before the Meeting

7:45a PDT / 10:45a EDT **Welcome** from **Dr. Rhonda Voskuhl**, UCLA / OSSD President and **Opening Remarks** from Dr. Joel Berletch and Dr. Jaclyn Schwarz (OSSD 2021 Program Chairs)

8:00a-9:20a **Session 1:**
PDT **"The Role of the X Chromosome in Sex Differences in Health & Disease"**

Chairs: **Dr. Christine Disteche**, University of Washington, **Dr. Rhonda Voskuhl**, UCLA

11:00a–
12:20p EDT *On the "Nature" of sex and gender research. Dr. Cara Tannenbaum*, CIHR, CRIUGM

X chromosome mechanisms shown in immune responses relevant to health and disease. Dr. Rhonda Voskuhl, UCLA

X-inactivation escapee variation by cell and tissue type: The role in sex differences in health and disease. Dr. Christine Disteche, University of Washington

Sex Chromosome Dosage Effects on Gene Expression and Chromosome Organization in Humans. Dr. Armin Raznahan, NIMH

9:20a-9:30a PDT / 12:20p-12:30p EDT **Coffee Break**

9:30a-10:30a **SESSIONS 2 and 3**
PDT

12:30p–
1:30p EDT **Session 2: HOT TOPICS in Sex Difference Research: Cells and Molecules**

Chair: **Dr. Maarouf Baghdadi**, Max Planck Institute for Biology of Aging

The Power of Natural Variation: Sex Differences and Mitochondrial Functions.

Dr. Karthickeyan Chella Krishnan, UCLA

Sex-specific molecular adaptations of the blood-brain barrier promote stress resilience vs depression. Dr. Caroline Menard, Université Laval, Quebec, Canada

Sex-specific differences in extracellular vesicles and their miRNA cargo in pregnancies complicated by maternal diabetes. **Dr. Karen Forbes**, University of Leeds

Session 3: HOT TOPICS in Sex Difference Research: Genetics and Important Data Sets

Chair: **Dr. Francisco Garcia-Garcia**, Prince Felipe Research Center

Big data approaches to detect and understand sex/gender differences in health.
Dr. Francisco Garcia-Garcia, Prince Felipe Research Center, Spain

Early life stress increases the retrotransposon, Line1, within developing brain in a sex-dependent manner.

Dr. Amelia Cuarente, University of Wisconsin-Madison

Neonatal Nutrition and Growth-Does Sex Matter? **Dr. Pradeep Alur**, University of Mississippi Medical Center

10:30a-11:30a PDT / 1:30p-2:30p EDT

Coffee and Networking w/ Roundtables

11:30a-12noon PDT / 2:30p-3:00p EDT

DATA BLITZ 1



Highlighting Award Winners and their Data



12:00p-1:00p PDT / 3:00p-4:00p EDT

Lunch on your own OR

EDUCATION EVENT “Integrating Sex and Gender into Research: Emphasizing approach, novelty and impact” Panel Q&A

Open to All

Chairs: **Dr. Sofia Ahmed**, University of Calgary and **Dr. Kristen Zuloaga**, Albany Medical College

The Panelists:

Dr. Art Arnold, UCLA

Dr. Liisa Galea, University of British Columbia

Dr. Michelle Mielke, Mayo Clinic

Dr. Sarah Richardson, Harvard University

1:00p-2:30p PDT / 4:00p-5:30p EDT

POSTER SESSION I

Open Networking Time Available Online

End of Day 1

Tuesday May 4th

Open Networking Time Available Online Before the Meeting

7:45a PDT Introduction to the Keynote Address by **Dr. Rhonda Voskhul**, UCLA / OSSD President

8:00a-9:00a PDT / 11:00a-12noon EDT

KEYNOTE ADDRESS from the
Arthur Arnold Distinguished Lecturer

Dr. Janine Clayton, NIH, Director ORWH

*The Ultimate Goal:
Advancing Science to Improve the Health of Women*



9:00a-9:30a PDT / 12noon-12:30p EDT **Coffee Break and Chat w/ Roundtables**

9:30a-10:30a PDT **SESSIONS 4 and 5**

12:30p-

1:30p EDT

Session 4: “Sex-Specific Therapies and Therapeutic Outcomes across Various Diseases”

Chair: **Dr. Katelyn Bruno**, Mayo Clinic

Sex differences in cardio-oncology: utilizing a genetic variant as a therapeutic target for doxorubicin-induced cardiomyopathy **Dr. Katelyn Bruno**, Mayo Clinic

Prohibitin: A potential target for sex-based new therapeutics for metabolic and immune diseases. **Dr. Suresh Mishra**, University of Manitoba

Combination of aromatase inhibitor exemestane and carboplatin-based therapy for postmenopausal women with advanced non-small cell lung cancer. **Dr. Patricia Young**, UCLA

Sex-specific studies in Parkinson's disease models for the repurposing of the gonadal drug Dutasteride. **Amandine Isenbrandt**, Laval University, Quebec

Session 5: “Cardiovascular Health Across the Lifespan in the Transgender Person”

Chair: **Dr. Sofia Ahmed**, Libin Cardiovascular Institute of Alberta and University of Calgary

Overview: Gender Identification and Personalized Medicine, **Dr. Sofia Ahmed**

Transgender Health: The lived experience, **Cris Morillo**, Calgary, Canada

Cardiovascular Health in Transgender People: What is the evidence and what data are we missing? **Dr. Carlos Morillo**, Libin Cardiovascular Institute of Alberta and University of Calgary

Gender-Affirming Hormone Therapy and Health: Personal accounts and the evidence, **Dr. Castalia Francon**, CT

10:30a-11:00a PDT / 1:30p-2:00p EDT

DATA BLITZ 2



Highlighting Award Winners and their Data



11:00a-12:30p PDT / 2:00p-3:30p EDT

Lunch on your own OR

A lunchtime WORKSHOP: SABV 101 – CVD, Immune Function and Stroke

Chair: **Dr. Art Arnold**, University of California, Los Angeles

Dr. Louise McCullough, McGovern Medical School, UT Health Science Center
Sex differences in stroke.

Dr. Jayne Danska, Hospital for Sick Children and University of Toronto
Sex differences in the immune system.

Dr. Karin Schenck-Gustafsson, Karolinska Institute
Sex and Gender differences in Cardiovascular Health and Disease: Impact on clinical care.

12:30p-2:00p PDT / 3:30p-5:00p EDT

POSTER SESSION II

2:00p PDT - / 5:00p EDT –

Evening Social Event (*open to all*)

Open Networking Time Available Online

End of Day 2

Wednesday May 5th

Open Networking Time Available Online Before the Meeting

8:00a-9:00a PDT **Special Session: “Sex and Gender Differences in COVID-19”**
Chair: **Dr. Sabra Klein**, Johns Hopkins University

11:00a–
12:00p EDT *Sex differences in COVID-19 from hamsters to humans.*
Dr. Sabra Klein, Johns Hopkins University

The gendered impacts of COVID-19 and the need for a gender responsive pandemic plan.
Dr. Rosemary Morgan, Johns Hopkins University

The clinical spectrum of COVID-19: sex, gender and disease susceptibility. **Dr. Eileen Scully**, Johns Hopkins University

9:00a-9:15a PDT / 12noon – 12:15p EDT **Coffee Break**

9:15a-10:15a PDT / 12:15p-1:15p EDT

Introduction to the Capstone lecture with Dr. Jaclyn Schwarz

CAPSTONE LECTURE

Dr. Roberta Brinton

Director, University of Arizona Center for
Innovation in Brain Science
University of Arizona Health Sciences

*Tipping Points for Late-Onset Neurodegenerative Disease:
Sex Differences in Mid-Life Aging.*



10:15a-10:30a PDT / 1:15p-1:30p EDT **Coffee Break**

10:30a-11:50a PDT **SESSIONS 6 and 7**

1:30p–
2:50p EDT **Session 6: “Sex and Gender Differences in E-cigarette Use and Toxicity”**

Chairs: **Drs. Meghan E. Rebuli**, University of North Carolina, Chapel Hill and **Patricia Silveyra**, Indiana University School of Public Health

Gender differences in perceived stress and e-cigarette use across adolescence.
Dr. Jessica L. Barrington-Trimis, USC Keck School of Medicine

LGBT E-cigarette use and exposure to advertisements on traditional and social media.
Dr. Kristen Emory, San Diego State University

Sex-Specific Effects of Nicotine Exposure: Differences between e-cigarette vapor inhalation and intravenous nicotine self-administration. **Dr. Valeria Lallai**, University of California, Irvine

Sex-dependent effects of E-cigarette in combination with other tobacco use on sleep quality.
Dr. Laura Crotty Alexander, UC San Diego School of Medicine

Session 7: HOT TOPICS in Sex Difference Research: Aging and Physiological Processes

Chair: **Dr. Rachel Buckley**, Massachusetts General Hospital, Harvard Medical School

Sex differences in the rates of cognitive decline associated with in vivo tau burden: Findings from the Harvard Aging Brain Study. **Dr. Rachel Buckley**, Massachusetts General Hospital, Harvard Medical School

Sex-Specific Role of Neuronal Insulin Signaling on Health Span and Lifespan.
Dr. Maarouf Baghdadi, Max Planck Institute for Biology of Aging, Cologne, Germany

Sex differences in active-phase sleep amount are partially driven by X chromosome dosage.
Dr. India Nichols-Obande, UCLA

Investigating the role of Y-chromosome genes in protection against pulmonary hypertension.
Christine M. Cunningham, UCLA

11:50a-1:00p PDT / 2:50p-4:00p EDT

Lunch on your own OR

Mentor-Mentee LUNCH

(Open to all trainees)

Organizer: **Dr. Brittany Osborne**, CHOP / University of Pennsylvania

1:00p-2:20p PDT **SESSIONS 8 and 9**

4:00p–
5:20p EDT **Session 8: “Estrogen and cognitive brain functions: sex, conflict and complexity”**

Chair: **Dr. Tallie Z. Baram**, University of California, Irvine

Sexually dimorphic synaptic plasticity in hippocampal networks critical for spatial memory.
Dr. Christine M. Gall, University of California, Irvine

Low estradiol protects females from the memory-impairing effects of multiple concurrent acute stresses. **Dr. Tallie Z. Baram**, University of California, Irvine

Beneficial and adverse effects of estrogens on the hippocampus and their importance.
Dr. Helen Scharfman, New York University

Estrogen and Memory across the Female Lifespan. **Dr. Tracey Shors**, Rutgers University

Session 9: “Multifactorial Determinants and Insights into Sex Differences in

the Regulation of Energy Homeostasis”

Chair: **Dr. Edward Wagner**, Western University of Health Sciences

Sex Differences in, and dietary influences on, cannabinoid regulation of energy homeostasis.
Dr. Edward J. Wagner, Western University of Health Sciences

Sex differences in progressive motor and metabolic phenotypes in the MeCP2-e1 deficient mouse model. **Dr. Janine LaSalle**, University of California, Davis

Sex differences in the drinking response to angiotensin II.
Dr. Jessica Santollo, University of Kentucky

Estradiol Protects Proopiomelanocortin Neurons against Insulin Resistance.
Dr. Jian Qiu, Oregon Health and Science University

2:20p-3:15p PDT **OSSD Membership and Business Meeting** (Open to All)

5:20p-6:15p EDT Dr. Rhonda Voskuhl, UCLA, OSSD President

AWARDS RECEPTION

Honoring all award recipients, and announcing the
Florence P. Haseltine Best Poster Award competition winners.

Open Networking Time Available Online

End of Day 3

Thursday May 6th

Open Networking Time Available Online Before the Meeting

8:00a-9:20a PDT **SESSIONS 10 and 11**

11:00a–

12:20p EDT **Session 10: “Sex Differences in Aging – Why Women Live Longer or Does it Just Seem Longer?”**

Chairs: **Dr. C. Noel Bairey Merz**, Cedars-Sinai Medical Center and **Dr. Karin Schenck-Gustafsson**, Karolinska Institute

Comparative biology of sex & longevity. **Dr. Steven N. Austad**, University of Alabama at Birmingham

The X chromosome, Aging and Neurodegenerative disease. **Dr. Dena Dubal**, University of California, San Francisco

Gender differences in cognitive aging. **Dr. Michelle M. Mielke**, Mayo Clinic College of Medicine

Sex differences in the mechanisms of cardiovascular aging. **Dr. Michael D. Nelson**, University of Texas at Arlington

Session 11: “Overlooked no more: The modulating effect of sex on the transmission, pathogenesis, pharmacotherapy and complications of HIV/AIDS”

Chair: **Dr. Gretchen Neigh**, Virginia Commonwealth University

From acute HIV infection to chronic HIV disease: The role of sex hormones in HIV transmission and disease progression in women and men. **Dr. Eric Hunter**, Emory University

An Uneven Playing field: HIV Biomedical Prevention in Women and Men. **Dr. Karen Hoover**, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention

What’s sex got to do with it? Sex differences in the action and efficacy of antiretroviral therapy. **Dr. Mackenzie Leigh Cottrel**, UNC Chapel Hill

Sex differences in HIV-host pathogen interactions – a driving force behind the disparity in HIV-associated end-organ damage in women and men. **Dr. Igbo Ofotokun**, Emory University

9:20a-9:30a PDT **Coffee Break**

9:30a-10:50p PDT **SESSIONS 12 and 13**

12:30p–

1:50p EDT **Session 12: “Differences of Sex Development: A window into sex and gender development”**

Chairs: **Dr. Natalie Nokoff**, University of Colorado Anschutz Medical Campus and **Dr. Eric Vilain**, GW Children’s National Medical Center

Introduction: Understanding Differences of Sex Development. **Dr. Courtney Finlayson**, Northwestern Feinberg School of Medicine, Lurie Children's Hospital

Modern Genetic Approaches to DSD. **Dr. Emmanuèle Délot**, The George Washington University

Psychosocial outcomes in DSD and the impact of sex steroids on the brain.
Dr. David Sandberg, University of Michigan

Session 13: "Sex differences in mitochondria in health and disease"

Chairs: **Dr. DeLisa Fairweather**, Mayo Clinic and **Dr. Michael Coronado**, Whitman College

Sex differences in mitochondrial function- an overview. **Dr. Renee Ventura-Clapier**, Université Paris-Sud, Châtenay-Malabry, France

Maternal vs. paternal inheritance of mitochondria. **Dr. Paldeep Atwal**, The Atwal Clinic, Jacksonville, FL

Sex differences in mitochondrial function and dynamics in cardiac muscle during exercise.
Dr. Michael Coronado, Whitman College

Sex-specific stress adaptation and mitochondrial function in Drosophila. **Dr. John Tower**, University of Southern California

10:50a-11:00a PST **Coffee Break**

11:00a-12:30p PDT **Elizabeth Young New Investigator Award Symposium**

2:00-3:30p PDT

Co-Chairs: **Drs. Kathryn Lenz** and **Farrah Madison**



Myeloid-Derived Suppressor Cell Sexual Dimorphism Promotes Glioblastoma Progression in Females via IL-1 β Signaling. **Dr. Defne Bayik**, Lerner Research Institute, Cleveland Clinic

Sex-specific Effects of Ventral Hippocampal Egr1 Expression on Neuronal Transcriptional Programs and Behavior. **Devin Rocks**, Fordham University

Female-specific Susceptibility to Cardiac Arrhythmias in Refed-food-restricted Rats. **Dr. Aline M. A. de Souza**, Georgetown University

Sex-specific regulation of the adipokinetic hormone signaling pathway maintains the male-female differences in fat metabolism. **Lianna Wat**, University of British Columbia

12:30p-1:30p PDT / 3:30p-4:30p EDT

Networking and Social Lunch Hour

1:30p-2:50p PDT **SESSIONS 14 and 15**

4:30p-

5:50p EDT

Session 14: “Neuroimmune Activity in Adolescence: Are sex differences all about puberty?”

Chair: **Dr. Heather Brenhouse**, Northeastern University

Is perineuronal net formation during adolescence differentially regulated by microglial activity in males and females? **Kelsea Gildawie**, Northeastern University

Sex differences in blood brain barrier activity during adolescence.

Dr. Gretchen Neigh, Virginia Commonwealth University

Sex-specific impact of immune signaling on dopaminergic signaling during adolescence.

Dr. Ashley Kopec, Albany Medical College

Probiotic consumption during puberty mitigates LPS-induced immune responses and protects against stress-induced depression- and anxiety-like behaviors in adulthood in a sex-specific manner. **Dr. Nafissa Ismail**, University of Ottawa

Session 15: “Sex Differences in the Neurobiology of Addictive Disorders: Clinical Implications”

Chair: **Dr. Aimee McRae-Clark**, Medical University of South Carolina

Targeting stress for treatment development for women with alcohol use disorders.

Dr. Sherry McKee, Yale University

Stress, gender and opioid use disorders. **Dr. Kathleen Brady**, Medical University of South Carolina

Women and cannabis: Do sex and gender matter? **Dr. Aimee McRae-Clark**, Medical University of South Carolina

Sex Differences in the Incubation of Cocaine Craving: Role of Ovarian Hormones.

Dr. Sunila Nair, University of Washington

Open Networking Time Available Online After the Meeting

End of the OSSD 2021 Virtual Meeting. See you next year at OSSD 2022!