



National Institutes of Health
Office of Research on Women's Health

Methods and Techniques for Integrating the Biological Variable Sex in Preclinical Research

A Workshop Sponsored by the Office of Research on Women's Health

October 20, 2014

7:45 am to 5:30 pm

John Edward Porter Neuroscience Building (Building 35A)

Conference Room #640

NIH, Main Campus, Bethesda, MD

#SexinScience

- 7:45 a.m. – 8:00 a.m. Welcome
Janine A. Clayton, M.D.
NIH Associate Director for Research on Women's Health
Director, Office of Research on Women's Health
National Institutes of Health
- 8:00 a.m. — 8:30 a.m. The Importance of Reproducibility in Biomedical Research
Lawrence Tabak, D.D.S., Ph.D.
Principal Deputy Director
National Institutes of Health
- 8:30 a.m. – 8:35 a.m. Introduction of Keynote Speaker
Janine A. Clayton, M.D.
- 8:35 a.m. — 9:15 a.m. Keynote Speaker
Lawrence Cahill, Ph.D. [View slides](#)
Professor, Neurobiology and Behavior
University of California, Irvine
- Session I: The concept of including male and female subjects in studies**
Purpose: To highlight the importance of including male and female animals and cells in preclinical experiments and ways to perform such studies; to discuss how best to account for variability; and to discuss various aspects of experimental design.
- 9:15 a.m. – 9:25 a.m. Moderator
Cheryl Marks, Ph.D. [View slides](#)
Division of Cancer Biology Associate Director
National Cancer Institute
National Institutes of Health

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- 9:25 a.m. – 9:40a.m. **Speakers**
Jill Becker, Ph.D. [View slides](#)
Patricia Y. Gurin Collegiate Professor of Psychology
Research Professor Molecular & Behavioral Neuroscience Institute
University of Michigan
- 9:45 a.m. – 10:00 a.m. Patricia Hurn, Ph.D. [View slides](#)
Vice Chancellor for Research and Innovation
The University of Texas System
- 10:05 a.m. – 10:20 a.m. Wei-Jung Chen, Ph.D.
Professor, Associate Dean for Faculty Affairs and Curriculum
Management
Texas A&M Health Science Center
- 10:25 a.m. – 10:35 a.m. Session I Moderator and Speakers Q & A
- 10:35 a.m. —11:00 a.m. Break and Informal Discussion
- Session II: What is the impact of including or not including sex as a basic biological variable?**
Purpose: To discuss the impact of incorporating both sexes in studies of mechanisms of disease and design of therapeutics and the outcome, as well as to highlight what may be missing if only one sex is utilized in preclinical “discovery” research.
- 11:00 a.m. – 11:10 a.m. Moderator
Teresa Woodruff, Ph.D.
Director, Women's Health Research Institute
Thomas J. Watkins Memorial Professor of Obstetrics and Gynecology
Northwestern University
- 11:10 a.m. – 11:25 a.m. **Speakers**
Margaret McCarthy, Ph.D.
Professor and Chair, Department of Pharmacology, Program in Neuroscience
University of Maryland

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- 11:30 a.m. – 11:45 a.m. Farida Sohrabji, Ph.D.
Professor and Associate Chair, Department of Neuroscience and Experimental Therapeutics
Texas A&M Health Science Center
- 11:50 a.m. – 12:00 p.m. Session II Moderator and Speakers Q &A
- 12:00 p.m.—12:30 p.m. Lunch**
- 12:30p.m. – 12:35 p.m. Introduction of Keynote Speaker
Anne Rancourt, M.P.S.
Communications Director, Office of Research on Women's Health
National Institutes of Health
- 12:35p.m. – 1:00p.m. Keynote Speaker
Londa Schiebinger, Ph.D., M.A. [View slides](#)
The John L. Hinds Professor of History of Science
Director, EU/US Gendered Innovations in Science, Health & Medicine, Engineering and Environment Project
Stanford University
- Session III: Practical methods to integrate the biological variable sex into research projects**
Purpose: To discuss techniques and methods, from various research fields, which will aid researchers in incorporating both sexes in research and how to translate results into tangible and beneficial outcomes.
- 1:00 p.m. – 1:10 p.m. Moderator
Cora Lee Wetherington, Ph.D.
Women and Sex/Gender Differences Research Coordinator
National Institute on Drug Abuse
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- 1:10 p.m. – 1:25 p.m. **Speakers**
Susan Makris, Ph.D. [View slides](#)
Senior Staff Toxicology, Office of Research and Development,
National Center for Environmental Assessment
U.S. Environmental Protection Agency
- 1:30 p.m. – 1:45 p.m. Arthur Arnold, Ph.D.
Director, Laboratory of Neuroendocrinology of the Brain Research
Institute and Distinguished Professor, Integrative Biology and
Physiology
University of California Los Angeles
- 1:50 p.m. – 2:05 p.m. Gillian Einstein, Ph.D.
Professor, Department of Psychology and public Health Sciences
Senior Scientist, Women's College Research Institute
University of Toronto
- 2:10 p.m. – 2:20 p.m. Session III Moderator and Speakers Q & A
- 2:20 p.m. – 2:45 p.m. Break and Informal Discussion
- Session IV: Cultivating a culture of 'Sex Matters' across multiple disciplines**
Purpose: To discuss when sex matters and when the biological variable of sex should be considered in science; to determine where gender fits into the research realm; and to determine if there is a research space for single sex studies and if such studies will result in no harm.
- 2:45 p.m. – 2:55 p.m. Moderator
D. Lee Alekel, Ph.D. [View slides](#)
Program Director, Women's Health
Division of Extramural Research
National Center for Complementary and Alternative Medicine
National Institutes of Health

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2:55 p.m. – 3:10 p.m.	Speakers Virginia M. Miller, Ph.D. Professor of Physiology & Surgery Research Director, Mayo Clinic's Building Interdisciplinary Research Careers in Women's Health Mayo Clinic
3:15 p.m. – 3:30 p.m.	Kathryn Sandberg, Ph.D. View slides Director, Center for the Study of Sex Differences in Health, Aging & Disease Professor, Nephrology & Hypertension, Department of Medicine PhD Program Director, Physiology & Biophysics Georgetown University
3:35 p.m. – 3:45 p.m.	Session IV Moderator and Speakers Q & A
3:45 p.m. —4:00 p.m.	Break and Informal Discussions
4:00 p.m. – 5:00 p.m.	A Call to Action: Recommendations Moderator Susan Maier, Ph.D. Deputy Director, Office of Research on Women's Health National Institutes of Health
5:00 p.m. – 5:30 p.m.	Summary of Workshop Highlights Janine Clayton, M.D. NIH Associate Director for Research on Women's Health Director, Office of Research on Women's Health National Institutes of Health
5:30 p.m.	Adjourn

**Attendees will be responsible for meals and/or light refreshments on their own, at their own cost. The government and/or government contractors are not involved in facilitating the provision of food and/or light refreshment.