Justification for the “Understanding TBI in Women” Workshop:
The purpose of the “Understanding TBI in Women” workshop is to bring together researchers and clinicians to identify knowledge gaps, best practices, and target populations in research that focuses on females and/or sex differences within the field of traumatic brain injury (TBI). Women are under-represented in TBI clinical trials, and the reasons for this disparity in enrollment need to be identified and addressed. In addition, pre-clinical studies have often excluded females or have used ovariectomized rather than intact animals, leading to an incomplete understanding of TBI in females. This workshop will focus on the existing knowledge regarding sex differences in TBI research and how these differences can be incorporated in pre-clinical and clinical efforts going forward. Deliverables from the workshop will include a White Paper that can be converted into a journal publication that describes the workshop, outlines the state of the science, and identifies future directions for research.

Day 1: December 18, 2017
07:30 am  Registration

08:00 am  Welcome
Walter Koroshetz, MD, NIH/NINDS

08:30 am  Keynote: Identifying Sex Differences in Research: What Are the Challenges?
Margaret McCarthy, PhD, University of Maryland School of Medicine

09:00 am  Session I: Sex Differences in TBI across the Lifespan
Moderator: Lisa Begg, DrPH, RN, NIH/ORWH
20 min presentations and 20 min Panel Q&A Session
- The Epidemiology of Sex Differences in the Incidence of TBI
  Matt Brieding, PhD, Centers for Disease Control
- Sex Differences in Pediatric Cases of TBI
  Courtney Robertson, MD, Johns Hopkins University
- Sex Differences in Older Adults following TBI
  Angela Colantonio, PhD, University of Toronto

10:00 am  Panel Discussion

10:20 am  Break (15 minutes)

10:40 am  Session II: TBI as a Consequence of Intimate Partner Violence
Moderator: Katherine Price Snedaker, LCSW, PINK Concussions
20 min presentations and 20 min Panel Q&A Session
- Detecting Intimate Partner Violence-Related TBI
  Katherine Iverson, PhD, Boston University School of Medicine
- Lessons from Neuroimaging Studies of Women Experiencing Partner-Related TBI
  Eve Valera, MD, Harvard Medical School
- Local and Global Consequences of TBI Sustained During Intimate Partner Violence
  Jacquelyn Campbell, PhD, RN, Johns Hopkins University

11:40 am  Panel Discussion
12:00 pm  Lunch (1 hour)

01:00 pm  **Session III:** Lost in Translation: Sex Differences in Pre-clinical and Clinical Research

  Moderator: Jeremy Brown, MD, NIH/NINDS

  15 min presentations and 30 min Panel Q&A Session

  - Progesterone for the Treatment of Traumatic Brain Injury (ProTECT)
    David Wright, MD, Emory University School of Medicine
  
  - Transforming Research and Clinical Knowledge in TBI (TRACK-TBI)
    Geoff Manley, MD, PhD, University of California, San Francisco
  
  - Approaches and Decisions in Acute Pediatric TBI (ADAPT) Trial
    Michael Bell, MD, Children’s National Medical Center
  
  - The Unique Challenges Facing Pre-Clinical to Clinical Translation in TBI Research
    Donald Stein, PhD, Emory University
  
  - Sex Differences as Revealed by Research on Large Animal Models of TBI
    Candace Floyd, PhD, University of Alabama at Birmingham
  
  - The Role of Hormones in Response to Trauma
    Ann Rasmusson, MD, Boston University School of Medicine

02:30 pm  Panel Discussion

03:00 pm  Break (20 minutes)

03:20 pm  **Session IV:** Sex Differences following Sports-Related TBI

  Moderator: Pat Bellgowan, PhD, NIH/NINDS

  20 min presentations and 20 min Panel Q&A Session

  - Sex-related Challenges After Sports Concussion in Pediatric Patients
    Christopher Giza, MD, University of California, Los Angeles
  
  - Epidemiology of Concussion Among High School Athletes
    Dawn Comstock, PhD, University of Colorado School of Medicine
  
  - Sex Differences in Recovery from TBI among High School Athletes
    Harvey Levin, PhD, Baylor College of Medicine
  
  - Current Trends Related to Sex Differences from the Concussion Assessment, Research and Education (CARE) Consortium Study
    Michael McCrea, PhD, Medical College of Wisconsin

04:40 pm  Panel Discussion

05:00 pm  Adjourn

**Day 2: December 19, 2017**

08:00 am  Summary of Day 1  Leighton Chan, MD, MPH, NIH/CC/RMD

08:15 am  **Session V:** Military Perspective: Sex Differences among Service Members

  Moderator: Katherine Helmick, MS, DCoE/DVBIC

  20 min presentations and 20 min Panel Q&A Session

  - Sex Differences in Post-Concussion Symptom Reporting among Service Members
    Sara Lippa, PhD, Walter Reed National Military Medical Center
  
  - Sex Differences in Outcomes of Service Members After Combat-Related TBI
    Odette Harris, MD, MPH, Stanford University
  
  - Trajectories of Comorbidity among Male and Female Veterans and Service Members After TBI
    Mary Jo Pugh, PhD, University of Texas Health Science Center
• The Neuropathological Trajectory of Male vs Female Veterans Following TBI
  Deborah Yurgelun-Todd, PhD, University of Utah School of Medicine

09:35 am  Panel Discussion

10:00 am  Break (15 min)

10:15 am  Session VI:  Sex Differences in Diagnosis, Prognosis and Management of TBI
  Moderator:  Alison Cernich, PhD, NIH/NICHD/NCMRR
  20 min presentations and 20 min Panel Q&A Session
  • Sex Differences in Prognostic Markers of TBI
    Rebekah Mannix, MD, MPH, Boston Children’s Hospital
  • Impact of Menstrual Phase on Outcome after Mild TBI
    Jeff Bazarian, MD, University of Rochester School of Medicine
  • Sex Differences in Inflammation and Imaging
    Christine Turitzo, MD, PhD, NINDS/NIH
  • Differences in Rehabilitation
    Lyn Turkstra, PhD, University of Wisconsin Madison

11:35 am  Panel Discussion

12:00 pm  Lunch (1 hour)

01:00 pm  Session VII:  Prioritization of Research Needs:  Breakout Sessions
  Closed Session

01:50 pm  Transition Back to Main Conference Room

02:00 pm  Session VIII:  Prioritization of Research Needs:  Breakout Sessions Report Back

02:45 pm  Summary & Closing
  Walter Koroshetz, MD, NIH/NINDS

03:15 pm  Adjourn