

# Brain Somatic Mosaicism (BSM) Network Workshop



September 16, 2016  
Lieber Institute for Brain Development  
855 North Wolfe Street, Baltimore, MD  
Conference Room 1  
8:00 am to 5:00 pm EDT

8:00 AM – 8:30 AM:     **Opening Reception**

## **8:30 AM – 12:20 PM: Morning Session Presentations**

**Chairs:** *Christopher Walsh, Boston Children's Hospital and Fred Gage, Salk Institute for Biological Studies*

**Moderator:** *John Moran, University of Michigan*

8:30 AM:           **Introduction & BSM Program Overview** – *Geetha Senthil, Ph.D.*

## **BSM Network Presentations** (30 minutes each, including 5 min for Q&A)

8:40 AM:           Lessons from Brain Genomics in Schizophrenia – *Daniel Weinberger, M.D. Lieber Institute for Brain Development*

9:00 AM:           Engineered LINE-1 Integration Preferences in Somatic Cells – *Diane Flasch, University of Michigan*

9:20 AM:           Bioinformatic analysis of somatic SNV rates in the brain – *Peter Park, Ph.D., Harvard Medical School*

9:50 AM:           Somatic mosaicism in the human prenatal brain – *Flora Vaccarino, M.D., Yale University*

10:20 AM:         **Break**

10:35 AM:         Challenges in identifying disease-causing brain somatic mosaic mutations – *Joseph Gleeson, Rockefeller University*

11:05 AM:         Challenges for cross-platform and multi-brain somatic mosaicism consortia – *Andrew Chess, M.D., Icahn School of Medicine at Mount Sinai, Maxwell Sherman, Harvard Medical School*

11:35 PM:         Mosaic variation in autism and bipolar disorder: recent findings and novel methods – *Jonathan Pevsner, Ph.D., Kennedy Krieger Institute, Donald Freed, Johns Hopkins School of Medicine*

12:05 PM:         **Adjourn morning session**



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## **12:30 PM – 5:00 PM: Afternoon Session**

**Chairs:** Christopher Walsh, Boston Children's Hospital and Fred Gage, Salk Institute for Biological Studies

**Moderator:** John Moran, University of Michigan

- 12:30 PM: **Network-wide reference tissue project**
- a. Project update and issues – *John Moran and Danny Weinberger*
  - b. Data production update - each group
  - c. Plans for analysis/validation - *Jeffrey Kidd, Jonathan Pevsner*
- 1:40 PM: **Data coordination sharing and Analysis**
- a. Overview of data production and technologies (Are we missing anything? Are there new approaches?) (10min) – *Jeff Kidd, Jonathan Pevsner*
  - b. Data/metadata standards and submission, BSM portal (30min) - *Larsson Omberg*
  - c. Discussion on data submission/release policy (30min) - *Peter Park (moderator)*
- 2:50 PM: **Break**
- 3:05 PM: **Data Analysis Methods Discussion**
- a. Overview on computational workflows for detection of cancer somatic mutations – how does it apply to us? - *Peter Park*
  - b. Validation standards for somatic variants – *John Moran*
  - c. Challenges and potential pitfalls for various WGA methods – *Alexej Abyzov*
  - d. Plan for joint analysis and identification of best practices and platforms – *Jeff Kidd, Jonathan Pevsner*
- 4:00 PM **Publications**
- a. Discussion of recently submitted marker paper- *Mike McConnell*
  - b. Discussion of Network Policies on publication(e.g. including BSM Network as one of the authors)
  - c. BSMN website – public interface
- 4:45 PM **Summary and closing remarks** – *Fred Gage and Christopher Walsh*
- 5:00 PM: **Adjourn closed session**