

## MWM 2017

The MWM program provides middle- and high-school mathematics and science teachers an opportunity to discuss and apply the data analysis and statistical concepts embodied in the *Common Core Standards for Mathematics (CCSSM)* and the American Statistical Association's (ASA) *Guidelines for Assessment and Instruction in Statistics Education (GAISE): A Pre-K–12 Curriculum Framework*.

Teachers will examine the Mathematical Practices of the CCSSM from a statistical point of view and study ways to assess student understanding of statistical concepts. They also will explore problems that require them to formulate statistical questions and collect, organize, analyze, and draw conclusions from data.

The MWM program includes examining what students can be expected to do at the most basic level of understanding data analysis and what can be expected of them as their skills develop and experience broadens.

**Program Chair:** Katherine T. Halvorsen, Department of Mathematics and Statistics, Smith College

### HIGH-SCHOOL PROGRAM Schedule for Grades 9–12 Workshops Tuesday, August 1, 2017

8:00 – 8:30	Teachers arrive and register for MWM. Coffee and pastries available.
8:30 – 8:45	Welcome by <b>Katherine Halvorsen</b> , MWM program chair; <b>Ron Wasserstein</b> , ASA executive director; <b>Rebecca Nichols</b> , ASA director of education; and representatives from the Baltimore Chapter of the ASA
8:45 – 9:15	Overview: <b>Christine Franklin</b> : <i>GAISE Pre-K–12 Report, Statistics Education for Teachers (SET) Report</i> , and statistics and probability content in the Common Core State Standards for Middle- and High-School Mathematics
9:15 – 10:45	Session 1: <b>Katherine Halvorsen</b> : Formulating statistical questions and recognizing the purposes of and differences among sample surveys, experiments, and observational studies; explaining how randomization relates to each. ( <i>Common Core Standards High School S-IC.B. 3 &amp; 6</i> )
10:45 – 11:00	Break
11:00 – 12:30	Session 2: <b>Anna-Marie Fergusson</b> : Recognizing data types and the appropriate methods for displaying, summarizing, and comparing them. Using the Normal distribution as a measure of extremeness. ( <i>Common Core Standards for High School S-ID.A.1-4</i> )

12:30 – 2:00	Lunch on your own
2:00 – 3:30	Session 3: <b>Anna-Marie Fergusson</b> : Using randomization tests to make inferences and justify conclusions. ( <i>Common Core Standards for High School S-IC.B.5</i> )
3:30 – 4:00	Evaluation and reflection

**MIDDLE-SCHOOL PROGRAM**  
**Schedule for Grades 5–8 Workshops**  
**Tuesday, August 1, 2017**

8:00 – 8:30	Teachers arrive and register for MWM. Coffee and pastries available.
8:30 – 8:45	Welcome by <b>Katherine Halvorsen</b> , MWM program chair; <b>Ron Wasserstein</b> , ASA executive director; <b>Rebecca Nichols</b> , ASA director of education; and representatives from the Baltimore Chapter of the ASA
8.45 – 9:15	Overview: <b>Kaycie Maddox</b> : <i>GAISE Pre-K–12 Report</i> , <i>Statistics Education for Teachers (SET) Report</i> , and statistics and probability content in the Common Core State Standards for Middle- and High-School Mathematics
9:15 – 10:45	Session 1: <b>Kaycie Maddox</b> : Statistical questions and methods for collecting data ( <i>Common Core Standards 6.SP.1</i> )
10:45 – 11:00	Break
11:00 – 12:30	Session 2: <b>Kaycie Maddox</b> : Comparative inferences about two populations – Census at School and Memory Test ( <i>Common Core Standards 7.SP.3 and 4, and S-ID.2</i> )
12:30 – 2:00	Lunch on your own
2:00 – 3:30	Session 3: <b>Christine Franklin</b> : Investigating patterns of association in bivariate categorical data. Dependent and independent events. Compare middle-school and high-school expectations ( <i>Common Core Standards 8.SP. 4 and S-ID.5</i> )
3:30 – 4:00	Evaluation and reflection

**JOINT HIGH-SCHOOL AND MIDDLE-SCHOOL PROGRAM**  
**Schedule for Grades 5–12 Workshops**  
**Wednesday, August 2, 2017**

8:00 – 8:30	Teachers arrive. Coffee and pastries available.
8:30 – 10:00	Session 1: <b>Christine Franklin</b> : Measure of center and variability (MAD) ( <i>Common Core Standards 6.SP.2, 3, 4, and 5</i> )
10:00 – 10:15	Break
10:15 – 11:45	Session 2: <b>Christine Franklin</b> : Investigating sampling variability: Gettysburg Address ( <i>Common Core Standards 7.SP.1 and 2</i> )
11:45 – 1:15	Lunch on your own
1:15 – 2:45	Session 3: <b>Kaycie Maddox</b> : Investigating patterns of association in bivariate quantitative data. Comparing middle-school and high-school expectations ( <i>Common Core Standards 8.SP.1, 2, 3, and S-ID.6,7,8</i> )
2:45 – 3:00	Break
3:00 – 3:30	Session 4: <b>Christine Franklin</b> : ASA Project and Poster Competition
3:30 – 4:00	Evaluation and reflection