Meeting Within a Meeting (MWM) 2020

The MWM program provides middle and high school mathematics and science teachers an opportunity to discuss and apply the data analysis, data science, and statistical concepts embodied in the NCTM *Catalyzing Change* books and the American Statistical Association's (ASA) *Guidelines for Assessment and Instruction in Statistics Education (GAISE) Pre-K-12 Curriculum Framework*. Teachers will examine the Mathematical Practices from a statistical point of view and study ways to assess student understanding of statistical concepts. Teachers will explore problems that require them to formulate statistical questions, 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 & Statistics, Smith College

HIGH SCHOOL PROGRAM
Schedule for Grades 9-12 Workshops

Monday, July 20, 2020

10:30 – 10:50	Welcome and plans for the week by Katherine Halvorsen, MWM Program Chair; Welcome from Ron Wasserstein, ASA Executive Director, Rebecca Nichols, ASA Director of Education, Wendy Martinez, ASA President, Trena Wilkerson, NCTM President, and David Barnes, NCTM Associate Executive Director for Research, Learning, and Development.
11:00 - 12:30	Session 1: Christine Franklin and Kaycie Maddox: GAISE Pre-K–12 Report; Statistics Education for Teachers (SET) Report; and the data analysis, data science, and statistical concepts embodied in the NCTM *Catalyzing Change* books; Mathematical Thinking versus Statistical Thinking.
12:30 – 2:00	Lunch Break
2:00 – 3:30	Session 2: Katherine Halvorsen, Formulating statistical questions and recognizing the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each.

Tuesday, July 21, 2020

11:00 – 12:30	Session 1: Catherine Case, Bivariate data analysis, graphs and models,
12:30 – 2:00	Lunch Break
2:00 – 3:30	Session 2: Anna-Marie Fergusson, Picture imperfect: Exploring and using data from grayscale images to develop informal classification models.

Thursday, July 23, 2020

11:00 – 12:30	Session 1: Catherine Case, Categorical data analysis, graphs, and tables.
12:30 – 2:00	Lunch Break
2:00 – 3:30	Session 2: Anna-Marie Fergusson, Music to my ears: Using randomization tests to make inferences and justify conclusions.

MIDDLE SCHOOL PROGRAM
Schedule for Grades 5-8 Workshops
Monday, July 20, 2020

10:30 – 10:45	Welcome and plans for the week by Katherine Halvorsen, MWM Program Chair; Welcome from Ron Wasserstein, ASA Executive Director, Rebecca Nichols, ASA Director of Education, and Wendy Martinez, ASA President
11:00 - 12:30	Session 1: Christine Franklin and Kaycie Maddox: GAISE Pre-K–12 Report; Statistics Education for Teachers (SET) Report; and the data analysis, data science, and statistical concepts embodied in the NCTM *Catalyzing Change* books; Mathematical Thinking versus Statistical Thinking.
12:30 – 2:00	Lunch Break
2:00 – 3:30	Session 2: Christine Franklin and Kaycie Maddox, The Statistical Investigative Process: • Questioning throughout the Investigative Process o Investigation on Statistical Questions (Focus book) • How should the data be collected? • How should the data be interrogated?

Tuesday, July 21, 2020

11:00 - 12:30	Session 1: Christine Franklin and Kaycie Maddox, Investigation on the Chances of Getting the Flu (Investigation from Focus Book): • Using simulation to explore estimating the probability of getting the flu • With screening tests, what does a false positive result tell us? • With screening tests, what does a false negative result mean?
12:30 - 2:00	Lunch Break
2:00 - 3:30	Session 2: Christine Franklin and Kaycie Maddox, Comparison of Groups for Two Populations: • Investigation on the Meaningful Difference Activity • Comparing the distributions of two groups with respect to shape, center, variability, and unusual observations

Thursday, July 23, 2020

11:00 – 12:30	Session 1: Christine Franklin and Kaycie Maddox, Mean and Variation: • Introduction of interpretations for the Mean and measures of variability from the mean at different grade levels • Investigation on the Gettysburg Address Activity – exploring: how we sample, bias, and how close we expect a sample mean to be to a population mean

12:30 – 2:00	Lunch Break
2:00 – 3:30	Session 2: Christine Franklin and Kaycie Maddox, Statistical Models: • Assumptions made with developing a model • The role of random variability • Linear and exponential models