THE BANBURY CENTER
Cold Spring Harbor Laboratory

MEETING AGENDA

Re-examining the Role of Statistical Methods in Biology Research

April 10-13, 2022
The Banbury Center, Lloyd Harbor, New York

This meeting was funded by
the Cold Spring Harbor Laboratory Corporate Sponsor Program

Organizers:
Andrew Gelman, Columbia University;
Megan Higgs, Critical Inference; and
Pamela Reinagel, University of California, San Diego

Concerns about rigor and reproducibility have led to calls for improved scientific practice and training in biology. The underlying motivation for this Banbury meeting was the idea that biological research could be more productive and more rigorous if statistical methods and associated inferences were better aligned with research goals and practices. The meeting brought together experts in biology and statistics to examine the historical, current, and possible roles of statistical reasoning and methods in biology research.

SUNDAY, APRIL 10

Afternoon   Arrivals and check-in

6:00 pm   Reception and dinner

MONDAY, APRIL 11

7:15 am   Breakfast

8:30 am   **Welcome, Opening Remarks, and Meeting Objectives**
Rebecca Leshan, Executive Director, The Banbury Center
Pamela Reinagel, University of California, San Diego, USA

Alan Love, University of Minnesota, Minneapolis, USA

9:30 am **SESSION A, B: Defining the Problem**
Pamela Reinagel, University of California, San Diego, USA
Stuart Firestein, Columbia University, New York, USA
Solange Brown, Johns Hopkins University, Baltimore, USA
Valentin Amrhein, University of Basel, Switzerland

12:00 pm Luncheon

1:45 pm **SESSION C, D: Defining the Problem**
Scott Edwards, Harvard University, Cambridge, USA
Lisa Boulanger, Princeton University, Princeton, USA

4:05 pm **SESSION E: Defining the Problem**
Synthesis and Group Discussion

6:00 pm Reception and dinner

TUESDAY, APRIL 12

7:15 am Breakfast

8:30 am **Opening Remarks**
Herb Weisberg, Causalytics, Apex, USA

9:00 am **SESSION F: Responding to Problems - 1**
Statistical/Methodological Approaches Panel

12:15 pm Luncheon

1:30 pm **SESSION G: Responding to Problems - 2**
Statistical/Methodological Approaches Panel

4:45 pm **SESSION H: Responding to Problems - 3**
Synthesis and Group Discussion

6:00 pm Reception and Dinner

WEDNESDAY, APRIL 13

7:15 am   Breakfast

8:30 am   **SESSION I: Implications for Education and Training**
Gundula Bosch, Johns Hopkins University, Baltimore, USA
Felicity Enders, Mayo Clinic, Rochester, USA
Steven Goodman, Stanford University, Stanford, USA

10:20 am   **SESSION J: Meeting Summary & Next Steps**
Synthesis and Group Discussion

12:15 pm   Luncheon
2:00 pm   Participant departures

— END OF PROGRAM —

MEETING PARTICIPANTS

Valentin Amrhein, University of Basel
Gundula Bosch, Johns Hopkins University
Lisa Boulanger, Princeton University
Solange Brown, Johns Hopkins University
Scott Edwards, Harvard University
Felicity Enders, Mayo Clinic
Stuart Firestein, Department of Biological Sciences, Columbia University
Andrew Gelman, Columbia University
Steven Goodman, Stanford University
Megan Higgs, Critical Inference LLC
Jessica Hullman, Northwestern University
Rafael Irizarry, Dana-Farber Cancer Institute and Harvard University
Alan Love, University of Minnesota, College of Liberal Arts
Nicole Nelson, University of Wisconsin-Madison
Pamela Reinagel, University of California, San Diego
Kimberly Sellers, Georgetown University
Mary Elizabeth Sutherland, Nature
Jay Ver Hoef, Alaska Fisheries Science Center
Herb Weisberg, Causalytics, LLC