

Cluster Randomized Clinical Trials (CRTs): Challenges and Opportunities

Morning Moderator: **Jesse Yenchih Hsu** (University of Pennsylvania)

8:30 am – 8:35 am	Welcome: Jeff Morris, PhD (University of Pennsylvania)
8:35 am – 8:45 am	Opening Remarks/Logistics: Susan S. Ellenberg, PhD (University of Pennsylvania)
8:45 am – 9:00 am	David M. Murray, PhD (National Institute of Health): <i>Overview: Innovations in the Design and Analysis of Group-or Cluster-Randomized</i>
9:00 am – 9:25 am	Victor De Gruttola, ScD (Harvard University): <i>Using network-level (and individual level) Information in design and analysis</i>
9:25 am – 9:50 am	Luke J. Keele, PhD (University of Pennsylvania): <i>Complexities Caused by Noncompliance in Cluster Randomized Trials</i>
9:50 am – 10:15 am	James P. Hughes, PhD (University of Washington): <i>Current issues in the design and analysis of stepped wedge trials</i>
10:15 am – 10:30 am	BREAK
10:30 am – 11:10 am	Morning Panel Discussion: Alisa J. Stephens-Shields, PhD (University of Pennsylvania), Karla Hemming, PhD (Birmingham), and Michael A. Proschan, PhD (National Institute of Health)
11:10 am – 11:50 am	MORNING OPEN FORUM
11:50 am – 12:35 pm	LUNCH BREAK

Afternoon Moderator: **James D. Lewis, MD, MSCE** (University of Pennsylvania)

12:35 pm – 1:00 pm	Lawrence H. Moulton, PhD (Johns Hopkins University): <i>Randomization: Beyond the Clusurization Principle</i>
1:00 pm – 1:25 pm	Natalie E. Dean, PhD (University of Florida): <i>The Ring Trial Design for the Estimation of Vaccine Efficacy and Effectiveness during Infectious Disease Outbreaks</i>
1:25 pm – 1:50 pm	Deborah J. Donnell, PhD (University of Washington): <i>Challenges in Implementing CRTs: from Hawthorne Effect to Measurement Bias</i>
1:50 pm – 2:15 pm	Weili He, PhD (AbbVie): <i>Practical Considerations in Utilizing Cluster Randomization Trials in Medical Research</i>
2:15 pm – 2:30 pm	BREAK
2:30 pm – 3:10 pm	Afternoon Panel Discussion: David M. Murray PhD (National Institutes of Health), Jeffrey N. Roberts, MD (FDA CBER), and Andrew Copas PhD (University College London)
3:10 pm – 3:50 pm	AFTERNOON OPEN FORUM
3:50 pm – 4:05 pm	Closing Remarks: <i>Mary E. Putt, PhD, ScD</i> (University of Pennsylvania)