

## Cluster Randomized Clinical Trials (CRTs): Challenges and Opportunities

7:30 am – 8:30 am	<b>REGISTRATION AND BREAKFAST</b>	
8:30 am – 8:35am	<b>Welcome:</b> <i>Jeff Morris, PhD</i> - University of Pennsylvania	
8:35- am 8:45 am	<b>Opening Remarks/Logistics:</b> <i>Susan S. Ellenberg, PhD</i> – University of Pennsylvania	
	<b>AM MODERATOR:</b> University of Pennsylvania	
8:45 am – 9:00 am	Overview: <i>Innovations in the Design and Analysis of Group- or Cluster-Randomized</i>	<b>David Murray, PhD (NIH)</b>
9:00 am - 9:25 am	Using network-level (and individual level) information in design and analysis	<b>Victor DeGruttola, ScD (Harvard)</b>
9:25 am - 9:50 am	Complexities Caused by Noncompliance in Cluster Randomized Trials	<b>Luke J Keele, PhD (UPenn)</b>
9:50 am - 10:15 am	Current issues in the design and analysis of stepped wedge trials	<b>James P Hughes, PhD (UW)</b>
10:15 am–10:40 am	<b>BREAK</b>	
10:40 am –11:20 am	<b>AM Panel Discussion</b> <i>Alisa Shields-Stephens (UPenn); Karla Hemming PhD (Birmingham); Mike Proschan PhD (NIH)</i>	
11:20 am –12:00 pm	<b>AM OPEN FORUM</b>	
12:00 pm – 1:00 pm	<b>LUNCH</b>	
	<b>PM MODERATOR:</b> University of Pennsylvania	
1:00pm - 1:25pm	Randomization: Beyond the Closures Principle	<b>Lawrence H. Moulton, PhD (JHU)</b>
1:25pm - 1:50pm	The Ring Trial Design for the Estimation of Vaccine Efficacy and Effectiveness During Infectious Disease Outbreaks	<b>Ira Longini, PhD (U FL)</b>
1:50pm – 2:15pm	Challenges in implementing CRTs: from Hawthorne effect to measurement bias.	<b>Deborah J Donnell, PhD (UW)</b>
2:15pm – 2:40pm	Practical Considerations in Utilizing Cluster Randomization Trials in Medical Research	<b>Weili He, PhD (AbbVie)</b>
2:40 pm – 3:05pm	<b>BREAK</b>	
3:05 pm – 3:45 pm	<b>PM Panel Discussion</b> <i>David Murray (NIH); Jeffrey Roberts MD (FDA CBER); Monica Taljaard (Ottawa Hospital Research Institute)</i>	
3:45 pm – 4:15 pm	<b>PM OPEN FORUM</b>	
4:15pm – 4:30pm	<b>CLOSING REMARKS:</b> <i>Susan S. Ellenberg, PhD</i> - University of Pennsylvania	