

**Simulating Intervention Trials in Infectious Diseases**  
**August 24th-25th, 2016 | Seattle, WA**  
**Fred Hutchinson Cancer Research Center**  
**Thomas Building, Sze Conference Room**

**DAY 1 - Wednesday, August 24th, 2016**

8:30 – 8:35am	Welcome	<b>Betz Halloran</b> Fred Hutch/U Washington
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8:40 – 8:55am	Introductions	<b>Marc Lipsitch</b> Harvard Chan School <b>All</b>
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**Simulations for Design and Interpretation of Intervention Trials**

*Chair: Nicole Basta*

9:00 – 9:20am	Why Model Complex Infectious Disease Intervention Trials	<b>Marc Lipsitch</b> Harvard Chan School
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9:20 – 9:25am	<i>Discussion</i>	
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9:25 – 9:45am	Mathematical Modelling of a Trial of Community-Wide Isoniazid Preventive Therapy for Tuberculosis	<b>Emilia Vynnycky</b> London School of Hygiene and Tropical Medicine
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9:45 – 9:50am	<i>Discussion</i>	
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9:50 – 10:10am	Aged Based Modeling in Designing HIV Prevention Trials	<b>Ron Brookmeyer</b> UCLA
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10:10 – 10:15am	<i>Discussion</i>	
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10:15 – 10:35am	Modeling an HIV Treatment-as- Prevention Trial in Botswana	<b>George Seage</b> Harvard Chan School
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10:35 – 10:40am	<i>Discussion</i>	
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10:40am	<i>Coffee</i>	
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11:10am	<i>Discussion</i>	
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## Stepped Wedge Designs

*Chair: Steve Bellan*

11:40 – 12:00pm

Experience with a SW Trial of an  
Intervention Designed to Prevent  
Chlamydia and Gonorrhea in  
Washington State (Treatment)

**James Hughes**  
University of Washington

12:00 – 12:05pm

*Discussion*

12:05 – 12:15pm

Simulating a Stepped-Wedge  
Design with an SIS model

**Tom Smith**  
Swiss TPH

12:20 – 12:40pm

*Discussion*

12:40 – 1:45pm

*Lunch*

**Trial Desiderata:  
Speed, Efficiency, Accuracy and Ethics**

*Chair: Alessandro Vespignani*

1:45 – 2:05pm

Quantitative Approaches to  
Assessing Ethical Tradeoffs in  
Study Design

**Steve Bellan**  
University of Texas and  
University of Georgia

2:05 – 2:10pm

*Discussion*

2:10 – 2:30pm

Design and Analysis of Cluster  
Randomized Vaccine Trials for  
Emerging Infectious Disease  
Emergencies

**Ira Longini**  
University of Florida

2:30 – 2:35pm

*Discussion*

2:35 – 2:55pm

Clinical Trial Designs for  
Investigational Treatments of  
Ebola Virus Disease

**Ben Cooper**  
Mahidol-Oxford Research Unit  
and University of Oxford

3:00pm

*Discussion*

3:20pm

*Coffee*

## Pathogen Diversity

*Chair: Marc Lipsitch*

3:50 – 4:10pm

Predicting Overall Vaccine  
Efficacy in a New Setting by Re-  
Calibrating Baseline Covariate  
and Immune Response Endpoint  
Effect Modifiers of  
Genotype/Phenotype-Specific  
Vaccine Efficacy

**Peter Gilbert**  
Fred Hutch/U Washington

4:10 – 4:15pm

*Discussion*

4:15 – 4:35pm

Optimal estimation of serotype-  
specific and overall vaccine  
efficacy against pneumococcal  
carriage

**Kari Auranen**  
THL and University of Turku,  
Finland

4:40pm

*Discussion*

5:10pm

Adjourn

5:45 pm

*Pre-dinner gathering*  
*Art Marble 21*

6:30pm

*Hosted Dinner/Continued*  
*Discussion,*  
**Art Marble 21**  
731 Westlake Ave North  
<http://www.artmarble21.com/>

## **DAY 2 – Thursday, August 25th, 2016**

### **Network Effects and Spillovers as Estimands and Nuisances (I)**

*Chair: Betz Halloran*

8:40 – 9:15am

Measuring Spillover Effects  
Through the Randomized  
Saturation Design

**Sarah Baird**  
George Washington University  
**Berk Özler,**  
World Bank

9:15 – 9:20am

*Discussion*

9:20 – 9:40am

Mysteries and Challenges in  
Measuring the Effectiveness of  
OCV

**Justin Lessler**  
Johns Hopkins Bloomberg School  
of Public Health

9:40 – 9:45am

*Discussion*

9:45 – 9:55am

Modeling Contamination  
Between Arms in Cluster-  
Randomised Trials of Vector  
Control Intervention

**Tom Smith**  
Swiss TPH

10:00am

*Discussion*

10:30am

*Coffee*

## Network effects and spillovers as estimands and nuisances (II)

*Chair: Ron Brookmeyer*

10:45 – 11:05am

Leveraging Contact Network  
Structure in the Design of Cluster  
Randomized Trials

**Jukka-Pekka Onnela**  
Harvard Chan School

11:05 – 11:10am

*Discussion*

11:10 – 11:30am

Network Science Perspective to  
the Design and Analysis of  
Cluster Randomized Trials

**Victor DeGruttola**  
Harvard Chan School

11:35 – 11:50am

*Discussion*

11:50-12:15pm

*Closing, Discussion of Next Steps*

**Betz Halloran**  
Fred Hutch/U Washington

12:20pm

*Adjourn*