



PRECISION HEALTH IN THE AGE OF DATA SCIENCE

6TH SEATTLE SYMPOSIUM IN BIOSTATISTICS

All sessions begin at 9 a.m. PST and end at approximately 1 p.m. PST

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Session 1: Precision Diagnostics: Development and Evaluation

Keynote: Lisa McShane (National Cancer Institute)

Biologically-informed development of treatment selection scores from high-dimensional omics data

Thomas Bengtsson (Genentech)

Applications of deep learning to clinical imaging in clinical trials: faster, better, (or just) cheaper?

Susan Murphy (Harvard University)

Challenges in developing learning algorithms to personalize treatment in real time

Patrick Heagerty (University of Washington)

Evaluation of electronic phenotypes

Panel: Jane Fridlyand, moderator (Genentech); Lisa McShane (National Cancer Institute); Barbara Conley (National Cancer Institute); Holly Janes (Fred Hutchinson Cancer Research Center)

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Session 2: Clinical Trials with Targeted Therapies

Keynote: Robert Califf (Verily Life Sciences)

Precision, personalization, populations, research and practice

Sumithra Mandrekar (Mayo Clinic)

Clinical trial designs for personalized medicine in oncology

Michael Rosenblum (Johns Hopkins University)

Improving precision and power in randomized trials for COVID-19 treatments by leveraging covariates

Jane Fridlyand (Genentech)

Identifying biomarkers to maximize the success of Phase 3 trials: challenges and opportunities

Panel: Barbara Conley, moderator (National Cancer Institute); Robert Califf (Verily Life Sciences); Lisa LaVange (University of North Carolina Chapel Hill); Richard Simon (R Simon Consulting)

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Session 3: Learning from Observational Data

Keynote: Scott Zeger (Johns Hopkins University)

Statistical methods for learning to improve healthcare

Rebecca Hubbard (University of Pennsylvania)

Grappling with bias and error in the analysis of EHR-derived phenotypes

Eric Tchetgen Tchetgen (University of Pennsylvania)

An introduction to proximal causal learning

Somnath Sarkar (Flatiron)

Clinico-genomic real-world data could unlock the potential of personalized medicine: challenges and opportunities

Panel: Ross Prentice, moderator (Fred Hutchinson Cancer Research Center); Scott Zeger (Johns Hopkins University); Sherri Rose (Stanford University); Jennifer Nelson (Kaiser Permanente Washington Health Research Institute)

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Session 4: Data Science in the Age of COVID-19

Keynote: Philip Krause (Food and Drug Administration)

Development and evaluation of vaccines for COVID-19: the critical role of quantitative thinking

Helen Chu (University of Washington)

Development of a city-wide pandemic surveillance framework

Nicholas Reich (University of Massachusetts Amherst)

How predictable is COVID-19? Insights from the COVID-19 Forecast Hub

Kate Starbird (University of Washington)

Disinformation during crisis events: the “perfect storm” of COVID-19 (and Election 2020)

Panel: Thomas Fleming, moderator (University of Washington); Philip Krause (Food and Drug Administration); Natalie Dean (University of Florida); Amy Maxmen (Nature Research)

We thank our industry partners for their generous support of this symposium.