1) ADAPTIVE PRE-SPECIFICATION IN RANDOMIZED TRIALS WITH AND WITHOUT PAIR-MATCHING

Laura Balzer, University of California, Berkeley

Mark van der Laan, University of California, Berkeley

Maya Petersen, University of California, Berkeley

SEARCH Consortium, University of California, Berkeley

2) DIAGNOSTIC TOOLS FOR MULTIPLE IMPUTATIONS

Iavor Bojinov, Harvard University

Natesh Pillai, Harvard University

Donald Rubin, Harvard University

3) PROPENSITY SCORE MATCHING WITH THREE GROUPS

Jason Bryer, Excelsior College

4) COVARIATE ADJUSTMENT FOR RECURRENT EVENTS UNDER DEPENDENT CENSORING

Youngjoo Cho, The Pennsylvania State University

Debashis Ghosh, University of Colorado

5) INDIVIDUALIZED MEDICINE AND INFORMATIVE MISSINGNESS: A MODEL FOR PREDICTING

LATENT HEALTH STATE

R. Yates Coley, Johns Hopkins Bloomberg School of Public Health

Scott Zeger, Johns Hopkins Bloomberg School of Public Health

H. Ballentine Carter, Johns Hopkins School of Medicine

6) A FORMAL TREATMENT OF REGRESSION DISCONTINUITY DESIGNS

Nayia Constantinou, University of Bristol

Aidan O'Keeffe, University College London

7) AN EXTENDED PROPENSITY SCORE APPROACH FOR COMPARATIVE EFFECTIVENESS IN MAIN-VALIDATION STUDY DESIGNS TO ACCOUNT FOR MISSING CONFOUNDERS

Katherine Evans, Harvard University

Eric Tchetgen Tchetgen, Harvard University

8) CAUSAL INFERENCE IN THE TWILIGHT ZONE: COMPONENT-SPECIFIC ESTIMATES IN FINITE

MIXTURE MODELS

Avi Feller, Harvard University

Evan Greif, Harvard University

Luke Miratrix, Harvard University

Natesh Pillai, Harvard University

9) MULTIPLE COMPARISONS IN SENSITIVITY ANALYSIS THROUGH QUADRATICALLY

CONSTRAINED LINEAR PROGRAMMING

Colin Fogarty, The Wharton School, University of Pennsylvania

Dylan S. Small, The Wharton School, University of Pennsylvania

10) EVALUATING CAUSAL EFFECTS FROM LONGITUDINAL DATA: AN EXAMINATION OF

ALTERNATIVES TO DIFFERENCE-IN-DIFFERENCES ESTIMATION

Richard Grieve, LSHTM, University of London

Stephen O'Neill, LSHTM, University of London

Noémi Kreif, LSHTM, University of London

Jasjeet S. Sekhon, University of California, Berkeley

11) DIAGNOSING CONFOUNDING FOR TIME-VARYING AND JOINT EXPOSURES **John W. Jackson**, Harvard School of Public Health

12) THE TREND-IN-TREND RESEARCH DESIGN FOR CAUSAL INFERENCE

Xinyao Ji, The Wharton School, University of Pennsylvania

Dylan S. Small, The Wharton School, University of Pennsylvania

Charles E. Leonard, Perelman School of Medicine, University of Pennsylvania

Sean Hennessy, Perelman School of Medicine, University of Pennsylvania

13) ROBUST CONFIDENCE INTERVALS FOR CAUSAL EFFECTS WITH POSSIBLY INVALID INSTRUMENTS

Hyunseung Kang, The Wharton School, University of Pennsylvania

T. Tony Cai, The Wharton School, University of Pennsylvania

Dylan S. Small, The Wharton School, University of Pennsylvania

ON THE PREDICTIVE PERFORMANCE OF DATA-MINING METHODS WITH MULTI-LEVEL DATA **Bryan Keller**, Teachers College, Columbia University

Christopher Swoboda, University of Cincinnati

15) DOUBLY ROBUST CAUSAL INFERENCE WITH CONTINUOUS INSTRUMENTAL VARIABLES

Edward H. Kennedy, Perelman School of Medicine, University of Pennsylvania

Dylan S. Small, The Wharton School, University of Pennsylvania

16) BAYESIAN SEMIPARAMETRIC LATENT MEDIATION MODEL

Chanmin Kim, Harvard T.H. Chan School of Public Health

Michael Daniels, University of Texas

Yisheng Li, MD Anderson Cancer Center

17) DESIGN, IDENTIFICATION, AND SENSITIVITY ANALYSIS FOR PATIENT PREFERENCE TRIALS

Dean Knox, Massachusetts Institute of Technology

Teppei Yamamoto, Massachusetts Institute of Technology

Matthew A. Baum, Harvard University

Adam Berinsky, Massachusetts Institute of Technology

18) ESTIMATING COUNTERFACTUAL MEANS OF STATIC AND DYNAMIC INTERVENTIONS IN CRITICAL CARE

Noémi Kreif, LSHTM, University of London

Linh Tran, University of California, Berkeley

Maya Petersen, University of California, Berkeley

Richard Grieve, LSHTM, University of London

Mark van der Laan, University of California, Berkeley

Robert Tasker, Boston Children's Hospital

19) CORRECTING MEASUREMENT ERROR IN TIME-VARYING COVARIATES WITH THE SIMEX PROCEDURE

Ryan P. Kyle, McGill University

Erica E.M. Moodie, McGill University

Michal Abrahamowicz, McGill University

20) INFERENCE FOR DISTRIBUTIONAL TREATMENT EFFECTS IN INSTRUMENTAL VARIABLE MODELS

Kwonsang Lee, The Wharton School, University of Pennsylvania

Jing Qin, National Institute of Allergy and Infectious Diseases

Dylan S. Small, The Wharton School, University of Pennsylvania

21) PROPENSITY SCORE APPROACHES TO ESTIMATING TREATMENT EFFECT ON CENSORED COST

Jiaqi Li, Perelman School of Medicine, University of Pennsylvania

Elizabeth Handorf, Temple University Fox Chase Cancer Center

Justin Bekelman, Perelman School of Medicine, University of Pennsylvania

Nandita Mitra, Perelman School of Medicine, University of Pennsylvania

22) MULTIVARIATE PATTERN ANALYSIS AND CONFOUNDING IN NEUROIMAGING

Kristin A. Linn, University of Pennsylvania

Bilwaj Gaonkar, University of Pennsylvania

Jimit Doshi, University of Pennsylvania

Christos Davatzikos, University of Pennsylvania

Russell Shinohara, University of Pennsylvania

23) ADJUSTMENT BY MINIMUM DISCRIMINANT INFORMATION IN THE PRESENCE OF

MEASUREMENT ERROR

Daniel McCaffrey, Educational Testing Service

J.R. Lockwood, Educational Testing Service

Shelby J. Haberman, Educational Testing Service

Lili Yao, Educational Testing Service

24) SIMULATION-EXTRAPOLATION FOR ESTIMATING MEANS AND CAUSAL EFFECTS WITH MISMEASURED COVARIATES

J.R. Lockwood, Educational Testing Service

Daniel F. McCaffrey, Educational Testing Service

25) PROPENSITY SCORES IN THE DESIGN AND ANALYSIS OF RANDOMIZED STUDIES

Travis M. Loux, Saint Louis University College for Public Health and Social Justice

26) OPTIMAL DYNAMIC TREATMENTS IN RESOURCE-LIMITED SETTINGS

Alexander R. Luedtke, University of California, Berkeley

Mark J. van der Laan, University of California, Berkeley

27) EXPLORING THE TRADE-OFF BETWEEN INSTRUMENT STRENGTH AND SAMPLE SIZE IN OBSERVATIONAL STUDIES

Susanna Makela, Columbia University

José R. Zubizarreta, Columbia University

Daniel Nagin, Carnegie Mellon University

28) SENSITIVITY ANALYSIS FOR UNOBSERVED EFFECT MODIFIERS IN RCT-TO-TARGET-

POPULATION GENERALIZATION OF TREATMENT EFFECT

Trang Quynh Nguyen, Johns Hopkins Bloomberg School of Public Health

Cyrus Ebnesajjad, Johns Hopkins Bloomberg School of Public Health

Elizabeth A. Stuart, Johns Hopkins Bloomberg School of Public Health

29) SHRINKAGE ESTIMATION FOR FACTORIAL EXPERIMENTS

Molly Offer-Westport, Yale University

Peter Aronow, Yale University

30) CONSTRUCTING SECOND CONTROL GROUPS TO ATTENUATE UNMEASURED BIAS

Samuel D. Pimentel, The Wharton School, University of Pennsylvania

Dylan S. Small, The Wharton School, University of Pennsylvania

Paul R. Rosenbaum, The Wharton School, University of Pennsylvania

31) IMPACT OF DELAYED OUTCOMES AND PROGNOSTIC VARIABLES ON SIMULATED RANDOMIZED TRIAL DESIGN WITH ADAPTIVE ENRICHMENT

Tianchen Qian, Johns Hopkins University

Elizabeth Colantuoni, Johns Hopkins University

Aaron Fisher, Johns Hopkins University

Michael Rosenblum, Johns Hopkins University

32) STABLE BALANCING WEIGHTS FOR MARGINAL STRUCTURAL MODELS

Maria de Los Angeles Resa, Columbia University

José R. Zubizarreta, Columbia University

33) FIRED FROM SCHOOL: YOUNG ADULTS' HEALTH OUTCOMES AFTER HIGH SCHOOL SUSPENSION **Janet Rosenbaum**, School of Public Health, SUNY Downstate Medical Center

34) A ROBUST NONPARAMETRIC WEIGHTING METHOD FOR INSTRUMENTAL VARIABLE ESTIMATION

Zach Shahn, Columbia University

José R. Zubizarreta, Columbia University

35) ROBUST TREATMENT EFFECT ESTIMATION USING KERNEL MEAN MATCHING

Uri Shalit, New York University

Tal El-Hay, IBM Research Laboratory, Israel

Ya'ara Goldschmidt, IBM Research Laboratory, Israel

Chen Yanover, IBM Research Laboratory, Israel

36) MATCHING METHOD FOR TESTING AND QUANTIFYING UPGRADE OF WIND POWER TURBINE

Yei Eun Shin, Texas A&M University

Jianhua Huang, Texas A&M University

Dr. Yu Ding, Texas A&M University

37) DRINKING AND MORTALITY: LONG-TERM FOLLOW-UP OF DRINKING-DISCORDANT TWIN PAIRS

Pyry Sipilä, University of Helsinki

Richard J. Rose, Indiana University

Jaakko Kaprio, University of Helsinki

38) INSTRUMENTAL VARIABLE SURVIVAL ANALYSIS WITH STRUCTURAL NESTED CUMULATIVE FAILURE TIME MODELS

Alisa J. Stephens-Shields, Perelman School of Medicine, University of Pennsylvania

39) THE PHILOSOPHICAL FOUNDATIONS OF THE APPLICATION OF QUANTUM THEORY IN SOCIAL SCIENCES

Orsolya Tárnok, University of Pécs

40) CAUSAL INFERENCE AS A MISSING DATA PROBLEM, AND VICE VERSA **Felix Thoemmes**, Cornell University

41) CAUSAL INFERENCE FOR ORDINAL OUTCOMES

Alexander Volfovsky, Harvard University Donald Rubin, Harvard University Edoardo Airoldi, Harvard University

42) CAUSAL ANALYSIS IN MULTI-ARM TRIALS WITH TRUNCATION BY DEATH

Linbo Wang, University of Washington Thomas S. Richardson, University of Washington Xiao-Hua Andrew Zhou, University of Washington

43) ON ASSOCIATIVE CONFOUNDER BIAS

Priyantha Wijayatunga, Umeå School of Business and Economics, Umeå University

44) RELATIVE APPEAL AMONG CAUSAL INFERENCE METHODS FOR ASSESSING THE RELATIVE CONTRIBUTIONS OF POVERTY TO MORTALITY DISPARITIES IN OLDER POPULATIONS: SIMULATION STUDIES TO INFORM FOLLOW-ON ANALYSIS OF A 5% MEDICARE SAMPLE Kenneth J. Wilkins, NIDDK Epidemiology Working Group

45) METABOLOMICS STATISTICAL CAUSAL INFERENCE IN MULTI-OMICS DATA

Azam Yazdani, University of Texas School of Public Health Akram Yazdani, University of Texas School of Public Health Ahmad Samiei, University of Texas School of Public Health Eric Boerwinkle, University of Texas School of Public Health

46) ESTIMATING MEDIATION EFFECTS UNDER CORRELATED ERRORS WITH AN APPLICATION TO fMRI

Yi Zhao, Brown University Xi Luo, Brown University

47) COVARIATE BALANCED RESTRICTED RANDOMIZATION: OPTIMAL DESIGNS, EXACT TESTS, AND ASYMPTOTIC PROPERTIES

Jingjing Zou, Columbia University
José R. Zubizarreta, Columbia University