![IBS WNAR logo]

WNAR

The Western North American
Region of The International Biometric Society

2017 ANNUAL MEETING

June 25-June 28, 2017

**Eldorado Hotel & Spa
Santa Fe, New Mexico**

PROGRAM AND SCHEDULE

Hosted by

UNM HEALTH SCIENCES CENTER

DIVISION OF EPIDEMIOLOGY, BIOSTATISTICS, AND
PREVENTIVE MEDICINE

June 2017

Welcome to the 2017 WNAR/IMS Conference in beautiful Santa Fe, New Mexico! We have a full and diverse program, with a poster session at the opening mixer, an exciting range of invited and contributed sessions, an impressive group of participants in the Student Paper Competition, and two different short course options: a course on Clinical Trials offered by Tammy Massie, and a course on Spatio-Temporal Modeling offered by Mevin Hooten, Trevor Hefley, and Perry Williams.

Sincerest thanks and appreciation are due our amazing Local Organizer, Cristina Murray-Krezan, and her department at the University of New Mexico Health Sciences Center. She has done an awe-inspiring job of coordinating a truly impressive list of conference arrangement details. Our Scientific Program Chairs Charlotte Gard (WNAR) and Raphael Gottardo (IMS) have orchestrated a great selection of invited sessions, and Charlotte Gard has additionally devoted exceptional efforts to organizing the contributed sessions and student sessions. All members of the WNAR executive board deserve much gratitude for the behind-the-scenes work they do, and I have been very fortunate to have the guidance and help of Past-President Susanne May. I would also like to gratefully acknowledge the generous efforts of our Student Paper Competition Judges: Adam Branscum (Chair), Kate Crespi, Ken Newman, and Chris Sroka.

Finally, thank you all for joining us at WNAR this year, and have an enjoyable, engaging, and edifying conference!

Sarah Emerson
2017 WNAR President

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WNAR Conference Local Organizer

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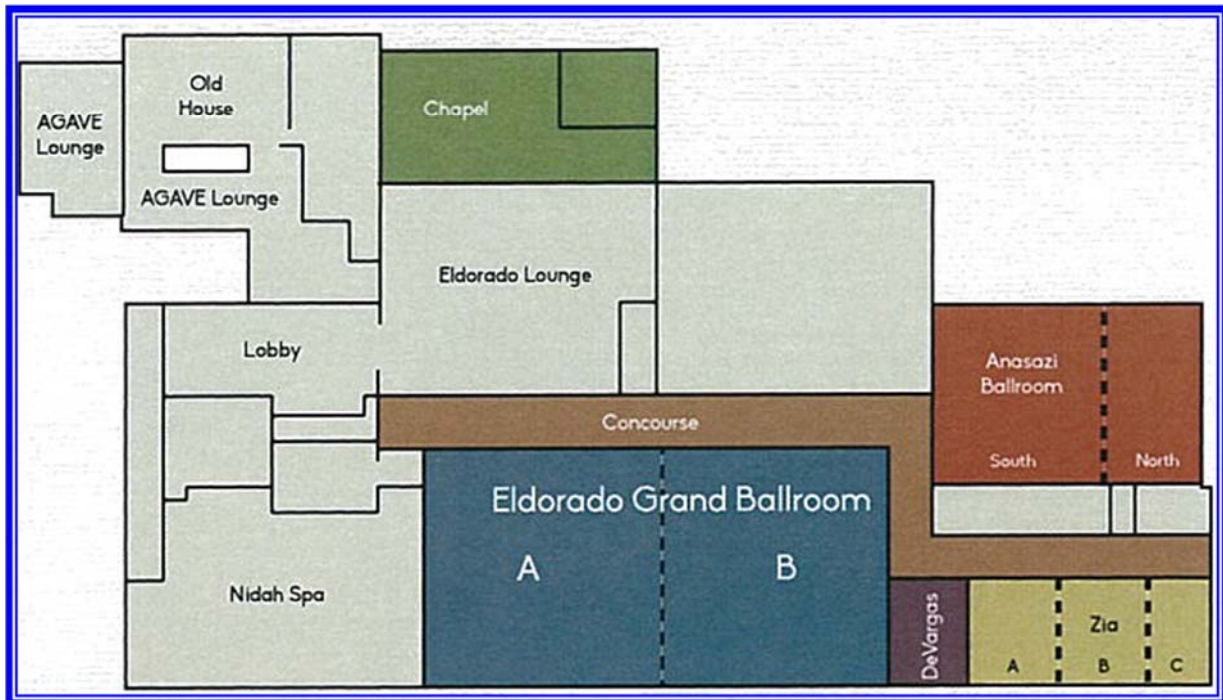
Ken Newman
United States Fish and Wildlife Service

Chris Sroka
New Mexico State University

TIME	SUNDAY, JUNE 25, 2017	
7:30 AM	**REGISTRATION FOR SHORT COURSE ATTENDEES** 7:30 – 8:00 am, *Concourse*	
8:00 AM	**SHORT COURSE 1:** Clinical Trials 8:00– 10:00 am *Zia A*	
9:00 AM		
	REFRESHMENT BREAK 10:00 – 10:15 am, *Concourse*	
10:00 AM	**SHORT COURSE 1** Continued 10:15 am – 12:00 pm *Zia A*	
11:00 AM		
12:00 PM	**LUNCH ON OWN** 12:00 – 1:00 pm	
1:00 PM	**SHORT COURSE 2:** Spatio-Temporal Modeling 1:00– 3:00 pm *Zia A*	
2:00 PM		
	REFRESHMENT BREAK 3:00 – 3:15 pm, *Concourse*	
3:00 PM	**SHORT COURSE 2** Continued 3:15 – 5:00 pm *Zia A*	**WNAR REGIONAL COMMITTEE MEETING** 3:30 – 5:00 pm *Piñon Conference Room*
4:00 PM		
5:00 PM	**GENERAL REGISTRATION** 5:00—6:00 pm *Concourse*	
6:00 PM	**MIXER & POSTER SESSION** 6:00 – 9:00 pm *Anasazi Ballroom*	
7:00 PM		**STUDENT PAPER COMMITTEE** 7:30 – 8:00 pm *Piñon Conference Room*
8:00 PM		

TIME	MONDAY, JUNE 26, 2017
7:30 AM **8:00 AM**	**GENERAL REGISTRATION** 7:30 – 8:30 am *Concourse*

8:00 AM **9:00 AM**	**WNAR INVITED SESSION 1** 8:30 – 10:15 am *Zia A*	**WNAR INVITED SESSION 2** 8:30 – 10:15 am *Zia B*	**STUDENT PAPER SESSION 1** 8:30 – 10:15 am *Zia C*	**CONTRIBUTED SESSION 1** 8:30 – 10:15 am *DeVargas*
10:00 AM	**REFRESHMENT BREAK** 10:15 – 10:30 am, *Concourse*			
11:00 AM	**WNAR INVITED SESSION 3** 10:30 am – 12:15 pm *Zia A*	**STUDENT PAPER SESSION 2** 10:30 am – 12:15 pm *Zia B*	**CONTRIBUTED SESSION 2** 10:30 am – 12:15 pm *Zia C*	
12:00 PM	**LUNCH ON OWN** 12:15 – 1:45 pm		**REGIONAL ADVISORY BOARD LUNCH** 12:30 – 1:45 pm *Piñon Conference Room*	
1:00 PM **2:00 PM**	**WNAR INVITED SESSION 4** 1:45 – 3:30 pm *Zia A*	**WNAR INVITED SESSION 5** 1:45 – 3:30 pm *Zia B*	**CONTRIBUTED SESSION 3** 1:45 – 3:30 pm *Zia C*	
3:00 PM	**REFRESHMENT BREAK** 2:30 – 3:45 pm (concurrent with sessions), *Concourse*			
4:00 PM	**PRESIDENTIAL INVITED ADDRESS** 3:45 – 5:00 PM *Anasazi South*			
5:00 PM	**RECEPTION** 5:00 – 6:00 pm *Presidential Patio*			

TIME	TUESDAY, JUNE 27, 2017			
8:30 AM	**WNAR INVITED SESSION 6** 8:30 – 10:15 am *Zia A*	**WNAR INVITED SESSION 7** 8:30 – 10:15 am *Zia B*	**STUDENT PAPER SESSION 3** 8:30 – 10:15 am *Zia C*	**CONTRIBUTED SESSION 4** 8:30 – 10:15 am *DeVargas*
9:00 AM				
10:00 AM	**REFRESHMENT BREAK** 10:15 – 10:30 am, *Concourse*			
	WNAR INVITED SESSION 8 10:30 am – 12:15 pm *Zia A*	**IMS INVITED SESSION 1** 10:30 am – 12:15 pm *Zia B*	**STUDENT PAPER SESSION 4** 10:30 am – 12:15 pm *Zia C*	**CONTRIBUTED SESSION 5** 10:30 am – 12:15 pm *DeVargas*
11:00 AM				
12:00 PM	**LUNCH ON OWN** 12:15 – 1:45 pm	**NEW INVESTIGATOR'S LUNCH** 12:30 – 1:45 pm *Anasazi North*	**REGIONAL COMM. MTG/LUNCH** 12:30 – 1:45 pm *Blue Corn Café, 133 W. Water St., Santa Fe, NM, 87501*	
1:00 PM				
2:00 PM	**WNAR INVITED SESSION 9** 1:45 – 3:30 pm *Zia A*	**WNAR INVITED SESSION 10** 1:45 – 3:30 pm *Zia B*	**CONTRIBUTED SESSION 6** 1:45 – 3:30 pm *Zia C*	**CONTRIBUTED SESSION 7** 1:45 – 3:30 pm *DeVargas*
3:00 PM	**REFRESHMENT BREAK** 2:30 – 3:45 pm (concurrent with sessions), *Concourse*			
			WNAR GENERAL BUSINESS MEETING 3:45 – 4:15 PM *Piñon Conference Room*	
4:00 PM			**STUDENT PAPER COMMITTEE** 4:15 – 5:15 pm *Piñon Conference Room*	
5:00 PM				
6:00 PM	**BANQUET** 6:00 – 8:00 pm *Anasazi North*			
7:00 PM				

TIME	WEDNESDAY, JUNE 28, 2017			
8:00 AM	**MORNING REFRESHMENTS** 8:00 – 8:30 am *Concourse*			
9:00 AM	**WNAR INVITED SESSION 11** 8:30 – 10:15 am *Zia A*	**IMS INVITED SESSION 2** 8:30 – 10:15 am *Zia B*	**CONTRIBUTED SESSION 8** 8:30 – 10:15 am *Zia C*	**CONTRIBUTED SESSION 9** 8:30 – 10:15 am *DeVargas*
10:00 AM				

GUEST INSTRUCTORS

<u>Short Course #1</u>: **Clinical Trials: How to Create, Organize and Implement a Clinical Trial from a Statistical Perspective**
Sunday, June 25, 2017, 8:00 am—12:00 pm, *Zia A*

Dr. Tammy Massie has been a Mathematical Statistician at the National Institute of Health (NIH) Equity, Diversity and Inclusion Office since 2016. Prior to joining the NIH, Dr. Massie worked as a Mathematical Statistician at the Food and Drug Administration (FDA) for nearly 14 years as both a statistical reviewer and a team leader.   Dr. Massie was the statistical reviewer of the first 3 novel immunotherapy allergenic products for ragweed and grasses: Grastek®, Ragwitek® and Oralair®. Additionally she assisted in the statistical review and approval of many drugs and vaccine products to prevent or treat many bacterial, viral and fungal infectious diseases including but not limited to: Measles Mumps Rubella Varicella (MMRV), Influenza, Dengue, Herpes Zoster, Pneumonia, E.Coli.

Dr. Massie earned her Ph.D. Biostatistics at the Medical College of Virginia, her M.S. Statistics at the University of Central Florida and her B.S. Mathematics at Stockton State College, NJ.

Recently Dr. Massie created the National Institute of Health Statistics Special Interest Group (Statistics SIG) an organization that includes over 150 statisticians from the NIH with the goal of having seminars and networking opportunities between NIH statisticians. In this capacity she is always looking for presenters as well as collaboration opportunities.

<u>Short Course #2</u>: **Spatio-Temporal Dynamic Statistical Modeling in Practice**
Sunday, June 25, 2017, 1:00—5:00 pm, *Zia A*

Dr. Trevor Hefley is an Assistant Professor in the Department of Statistics at Kansas State University. He holds a B.S. in Fisheries and Wildlife and Ph.D. in Statistics and Applied Ecology from the University of Nebraska–Lincoln. Broadly, his research focuses on developing and applying spatio-temporal statistical methods to inform wildlife conservation and management decisions.

Dr. Mevin B. Hooten is Associate Professor at Colorado State University and Assistant Unit Leader in the U.S. Geological Survey Colorado Cooperative Fish and Wildlife Research Unit. His research focuses on spatio-temporal statistics for ecological and environmental processes. Dr. Hooten has written two textbooks: "Bayesian Models: A Statistical Primer for Ecologists" and "Animal Movement: Statistical Models for Telemetry Data."

Dr. Perry Williams is a post-doctoral research fellow at Colorado State University co-located in the Department of Statistics and the Department of Fish, Wildlife, and Conservation Biology. He holds an M.S. in Wildlife Ecology from the University of Minnesota, an M.S. in Statistics from Colorado State University, and a Ph.D. in Fish, Wildlife, and Conservation Biology from Colorado State University. His research focuses on statistical and mathematical methods for estimating population processes to improve wildlife management and conservation.

PRESIDENTIAL INVITED ADDRESS
Monday, June 26, 2017, 3:45—5:00 pm
Anasazi South

Dr. Javier Rojo recently joined the Department of Statistics at Oregon State University as the inaugural Korvis Professor of Statistics. Dr. Rojo's research includes substantial contributions in the areas of survival analysis, nonparametric function estimation, statistical decision theory, random matrices and dimension reduction techniques. He earned his BS and MS in mathematics from the University of Texas, El Paso, and then a Master's degree in statistics from Stanford University. Dr. Rojo completed his Ph.D. in statistics at the University of California, Berkeley, exploring unbiasedness and the existence of L-unbiased estimators under the guidance of Erich Lehmann.

Dr. Rojo began his academic career at the University of Texas, El Paso in the mathematical sciences department. While at UTEP, he served as the founding director of the National Institutes of Health (NIH) funded Biostatistical Consulting Laboratory at El Paso. He joined the Department of Statistics at Rice University in 2001, and then accepted a position as the chair of the Department of Mathematics and Statistics at the University of Nevada at Reno. Dr. Rojo continues as an adjunct professor at the MD Anderson Cancer Center in Houston and at the Department of Civil and Environmental Engineering in Rice University.

Dr. Rojo has been a committed educator and mentor throughout his career: he has prioritized recruiting and guiding underrepresented students in the mathematical sciences, and since 2003 he has directed the Rice University Summer Institute of Statistics (RUSIS) to extraordinary success. The RUSIS program, which won the "Programs that make a difference" award from the American Mathematical Society (AMS) in 2014, provides a 10-week intensive summer program studying statistics and applications for a cohort of 12-15 students every year—61% of whom come from underrepresented populations. Dr. Rojo transferred RUSIS to UNLV when he joined the department there, and will continue directing it at OSU starting this summer.

Dr. Rojo has published more than 75 research articles in top-ranked statistics journals, and has served as associate editor and editor for the Journal of Nonparametric Statistics. He has edited four books, including the Selected Works of E.L. Lehmann by Springer-Verlag, and organizes and chairs The Lehmann Symposia in honor of his doctoral advisor Erich L. Lehmann.

Dr. Rojo received American Statistical Association's 2010 Don Owen Award—presented to a statistician who embodies the three-fold accomplishments of excellence in research, statistical consultation and service to the statistical community. He has served on the NSF Division of Mathematical Sciences Committee of Visitors, and on advisory committees for the Mathematical Biology Institute at Ohio State University and the Statistical and Applied Mathematical Sciences Institute.

SCIENTIFIC PROGRAM

Poster Session		
Organizer: Program	**Room:** Anasazi Ballroom	**Session Chair:** WNAR

1. **Correcting for Risk Factor Misclassification in the Partial Population Attributable Risk**
   Benedict H W Wong, Harvard University

2. **Estimating and Comparing Cancer Progression Risks under Varying Surveillance Protocols**
   Jane M. Lange, Fred Hutchinson Cancer Research Center

3. **A Time Series Analysis Of Pneumonia Hospitalization Rates to Evaluate the Impact of 13-Valent Pneumococcal Conjugate Vaccine Introduction into the US Infant Immunization Schedule**
   Tracy Pondo, Centers for Disease Control and Prevention

4. **Different Regulatory Genes between Telomerase Activation and ALT Based on the G-Networks**
   Kyunghyun Lee, Rice University

5. **Evidence Based-Guidelines for Selection of a Statistical Test for Two Group Comparisons in Biomedical Research**
   Luis Andres Alvarado, Texas Tech University Health Sciences Center - El Paso

6. **Explore Racial Disparities in Breast Cancer Survival Using Nonlinear Mediation Analysis**
   Qingzhao Yu, Louisiana State University Health Sciences Center

7. **Selecting and Transforming Data for Modeling with Clusters: An Example from a Public Health Study**
   Curtis Miller, University of New Mexico Health Sciences Center

8. **On the Use of a Joint Longitudinal Model to Estimate Association between Pseudomonas aeruginosa airway infection and systemic inflammation in children with Cystic Fibrosis**
   Brandie D. Wagner, University of Colorado

9. **Statistical Trend and Pattern of Reported Under-Five Mortality in a Government Children Hospital, Lagos-Nigeria**
   Aromolaran D. Adeyemi, Yaba College of Technology

WNAR Invited Session 1: Tree Based Methods		
Organizer: Annette Molinaro	**Room:** Zia A	**Session Chair:** Ann Lazar

8:30 am   **Case-Only Tree for Subgroup Analysis in Randomized Controlled Trials**
Michael LeBlanc, Fred Hutchinson Cancer Research Center

9:00 am   **Classification Trees with Misclassified Responses**
Liqun Diao, University of Waterloo

9:30 am   **Improving Statistical Power Using Regression Tree Analysis to Identify Patient Characteristics for Tailoring Precision Health Interventions**
Ann Lazar, University of California San Francisco

10:00 am   *Floor Discussion*

WNAR Invited Session 2: Methods for the Analysis of Structured High-Throughput Biomedical Data

Organizer: Noah Simon   **Room:** Zia B   **Session Chair:** Jean Morrison

8:30 am   **Adaptive Discovery of Signal Regions in Spatially Structured Genomic Data with False Discovery Rate Control**
Jean Victoria Morrison, University of Chicago

8:55 am   **Mapping Neural Microcircuits: Design and Inference**
Shizhe Chen, Columbia University

9:20 am   **Regression Methods for Characterizing B-Cell Mutation Processes**
David Shaw, Fred Hutchinson Cancer Research Center

9:45 am   **Extracting Neurons from Calcium Imaging Data**
Ashley Petersen, University of Minnesota

10:05 am   *Floor Discussion*

Student Paper Session 1

Organizer: Program   **Room:** Zia C   **Session Chair:** Adam Branscum

8:30 am   **Model-Based Testing of Sparsity Inducing Penalties**
Maryclare Griffin, University of Washington

8:50 am   **Monotone Distribution Function Estimation in Randomized Trials with Noncompliance**
Anqi Cheng, University of Washington

9:10 am   **Density Deconvolution Using the Phase Function with Unknown and Heterogeneous Measurement Errors**
Linh Hoang Nghiem, Southern Methodist University

9:30 am   **Incorporating Imperfect Detection in a Finite Population Block Kriging Estimator**
Matthew Higham, Oregon State University

9:50 am   *Floor Discussion*

Contributed Session 1: Missing Data Methods

Organizer: Program   **Room:** DeVargas   **Session Chair:** Curtis Miller

8:30 am   **How Are Researchers Handling Missing Data in Noninferiority Trials? A Systematic Review**
Melanie Bell, University of Arizona

8:50 am   **Methods for Estimating Causal Effects in the Presence of Data that Are Missing Differentially Across Sites Within a Data Research Network**
Albee Ling, Stanford University

9:10 am   **"Efron's Rules" for Inference after Imputation and Model Selection**

Karen Messer, University of California, San Diego Biostatistics

9:30 am *Floor Discussion*

Monday, June 26, 2017, 10:30 am – 12:15 pm

WNAR Invited Session 3: Statistical Genetics and Genomics

Organizer: James Dai   **Room:** Zia A   **Session Chair:** Michael LeBlanc

10:30 am **Integrating Multi-Dimensional Genomics Data to Understand the Genetics Mechanisms of Complex Traits**
Bingshan Li, Vanderbilt University

10:55 am **FunSPU: An Adaptive Multiple Functional Annotations-Based Association Test of Whole Genome Sequencing Data**
Peng Wei, The University of Texas MD Anderson Cancer Center

11:20 am **A Fast and Accurate Algorithm to Test for Binary Phenotypes and its Application to PheWAS**
Seunggeun (Shawn) Lee, Department. of Biostatistics, University of Michigan

11:45 am **Diagnostics of Pleiotropy in Mendelian Randomization Studies: Global and Individual Tests for Direct Effects**
James Dai, Fred Hutchinson Cancer Research Center

12:10 pm *Floor Discussion*

Student Paper Session 2

Organizer: Program   **Room:** Zia B   **Session Chair:** Adam Branscum

10:30 am **Joint Modeling of Longitudinal and Interval Censored Time-to-Event Outcomes with Application to Kidney Transplant Patients**
Kristen Campbell, University of Colorado Anschutz Medical Campus

10:50 am **Tree Based Weighted Learning for Estimating Individualized Treatment Rules with Censored Data**
Yifan Cui, University of North Carolina at Chapel Hill

11:10 am **Assessing Variable Importance Nonparametrically Using Machine Learning Techniques**
Brian David Williamson, University of Washington

11:30 am **Valid Inference for Selected Regions of Interest with Application to fMRI Studies**
Amit N. Meir, The University of Washington and The Fred Hutchinson Cancer Research Center

11:50 am *Floor Discussion*

Contributed Session 2: Clinical Trials Methodology

Organizer: Program   **Room:** Zia C   **Session Chair:** Megan Othus

10:30 am **The Use of Real World Data (RWD) for Premarket Approval of Medical Device from a Regulatory Perspective**

Terri Kang Johnson, US Food and Drug Administration

10:50 am   **Design of Phase I/II Drug Combination Cancer Trials Using CRM and Adaptive Randomization**
Mourad Tighiouart, Cedars-Sinai Medical Center

11:10 am   **Evaluating Effectiveness of a New Treatment Indication: Handling Missing Data in RCT**
Scott Emerson, University of Washington

11:30 am   **A Synthetic Estimator for the Efficacy of Clinical Trials with All-or-Nothing Compliance**
Bing Han, RAND Corporation

11:50 am   *Floor Discussion*

Monday, June 26, 2017, 1:45 – 3:30 pm

WNAR Invited Session 4: Peeking Behind the Curtain: Statistical Modeling of Chronic and Infectious Diseases

Organizer: Lurdes Y.T. Inoue   **Room:** Zia A   **Session Chair:** Jane Lange

1:45 pm   **Estimation of Cancer Natural History from Cancer Screening Trials**
Yu Shen, UT MD Anderson Cancer Center

2:10 pm   **Reading the Tea Leaves: Using Multistate Modeling to learn about Racial Differences in Prostate Cancer from Cancer Registry Data**
Ruth Etzioni, Fred Hutchinson Cancer Research Center

2:35 pm   **Combining Information to Estimate Medication Adherence in HIV Prevention Trials**
James Hughes, University of Washington

3:00 pm   **Assessment of Bias Due to Informative Visits in Longitudinal, Chronic Disease Studies**
John Neuhaus, University of California, San Francisco

3:25 pm   *Floor Discussion*

WNAR Invited Session 5: Statistical Methods for Environmental Health Data

Organizer: Li Luo   **Room:** Zia B   **Session Chair:** Ji-Hyun Lee

1:45 pm   **Statistical Methods to Estimate Exposures to Multiple Pollutants**
Amber J. Hackstadt, Vanderbilt University Medical Center

2:10 pm   **Assessing the Impacts of Pollutants on Birth Defects Using a Multivariate Spatial-Temporal Model**
Kimberly Kaufeld, Los Alamos National Laboratory

2:35 pm   **A Two-step Approach for Accessing Association between Oxidative Stress and Metal Mixture Exposures in Pregnant Navajo Women**
Ruofei Du, University of New Mexico

3:00 pm   **Random Forest Method for Unsupervised Clustering of the Environmental Chemical Exposures**
Li Luo, University of New Mexico Comprehensive Cancer Center

3:25pm   *Floor Discussion*

Contributed Session 3: Bayesian Methods

Organizer: Program   **Room:** Zia C   **Session Chair:** Erik Erhardt

1:45 pm   **Comparative Study of Probabilistic Models for Dietary Intake Data**
Ayona Chatterjee, California State University East Bay

2:05 pm   **A Bayesian Decision-Theoretic Approach to Subgroup Finding in Clinical Data**
Riten Mitra, University of Louisville

2:25 pm   **An Improved Scheme for Resolving the Number and Orientation of Nerve Fibers Using Diffusion MRI Data**
Sharang Chaudhry, University of Nevada Las Vegas

2:45 pm   **Update on the Bayesian Clinical Trials Conducted in the University of Texas MD Anderson Cancer Center in 2009-2013**
Rebecca S. Slack, The University of Texas MD Anderson Cancer Center

3:05 pm   *Floor Discussion*

Tuesday, June 27, 2017, 8:30 – 10:15 am

WNAR Invited Session 6: New Methods for the Analysis of Biomarkers in Genetics and Genomics Studies

Organizer: Sihai Zhao   **Room:** Zia A   **Session Chair:** Sihai Zhao

8:30 am   **A Novel Method for Detecting Copy Number Variations in Targeted Amplicon Sequencing Data**
Jessica Larson, Asuragen, Inc.

9:00 am   **Multiple Imputation by Chained Equations: A Fair Comparison of Tree-Based Methods and Predictive Mean Matching**
Melissa Naylor, Pfizer, Inc

9:30 am   **Some Methods for Integrative Genomics**
Sihai Zhao, University of Illinois at Urbana-Champaign

10:00 am   *Floor Discussion*

WNAR Invited Session 7: Statistical Challenges in Studies Involving Electronic Health Records

Organizer: Layla Parast   **Room:** Zia B   **Session Chair:** Layla Parast

8:30 am   **Inference about Prediction Accuracy in High Dimensions via Multi-layer Cross-Validation and Resampling**
Jessica Minnier, Oregon Health & Science University

9:00 am   **Using Surrogate Information to Test for a Treatment Effect**
Layla Parast, RAND

9:30 am   **Validation of Medicaid Coverage in Electronic Health Records to Monitor Health Reform**
Miguel Marino, Oregon Health & Science University

10:00 am *Floor Discussion*

Student Paper Session 3

Organizer: Program   **Room:** Zia C   **Session Chair:** Adam Branscum

8:30 am **Adaptive Additive Models with a Convex Hierarchical Penalty**
      Asad Haris, University of Washington

8:50 am **Covariance Properties and Graph Selection with High-Dimensional Compositional Data**
      Camden Lopez, Oregon State University

9:10 am **Mendelian Randomization when Many Instruments are Invalid: Hierarchical Empirical Bayes Estimation**
      Sai Li, Rutgers University, New Brunswick

9:30 am **Exposure, Hazard, and Survival Analysis of Diffusion on Social Networks**
      Jiacheng Wu, University of Washington

9:50 am *Floor Discussion*

Contributed Session 4: Modeling Time to Event and Count Data

Organizer: Program   **Room:** DeVargas   **Session Chair:** Jim Hughes

8:30 am **Estimating Lead-Time Bias in Lung Cancer Diagnosis of Patients with Prior Cancers**
      Daniel F. Heitjan, Southern Methodist University/UT Southwestern

8:50 am **What is the Most Appropriate Time Point Cut to Give Treatment under Emergency Setting?**
      Ja-An Lin, U.S. Food & Drug Administration

9:10 am **A Nested G-Computation Approach to Analyze Medical Cost Outcomes in the Presence of Censoring**
      Andrew Justin Spieker, University of Pennsylvania

9:30 am **Odds Ratios from Logistic, Geometric, Poisson, and Negative Binomial Regression Models**
      Christopher Sroka, New Mexico State University

9:50 am *Floor Discussion*

Tuesday, June 27, 2017, 10:30 am – 12:15 pm

WNAR Invited Session 8: Recent Advances in Spatio-Temporal Modeling of High-dimensional Data

Organizer: Damla Senturk   **Room:** Zia A   **Session Chair:** Donatello Telesca

10:30 am **Conditional Spectral Analysis of Multiple Time Series with Application to Nocturnal Physiology**
      Ori Rosen, University of Texas at El Paso

10:55 am **High-Dimensional Functional Data Analysis for Region-referenced EEG Data**
      Aaron Wolfe Scheffler, University of California, Los Angeles

11:20 am **A Bayesian Vector Autoregressive Model for Multi-Subject Effective Connectivity Inference Using Multi-Modal Neuroimaging Data**
Sharon Chiang, Baylor College of Medicine

11:45 am **A Bayesian Approach for Estimating Dynamic Functional Connectivity Networks in fMRI Data**
Erik Barry Erhardt, University of New Mexico

12:10 pm *Floor Discussion*

IMS Invited Session 1: Single Cell *omics: Frontiers in Exploratory and Confirmatory Analysis

Organizer: Andrew McDavid and Lynn Lin   **Room:** Zia B   **Session Chair:** Andrew McDavid

10:30 am **ZINB-WaVE: A General and Flexible Method for Signal Extraction from Single-Cell RNA-Seq Data**
Davide Risso, Weill Cornell Medicine

10:55 am **Methods for Dependent Data in Single Cell RNA-Seq Experiments**
Andrew McDavid, University of Rochester

11:20 am **Automated Exhaustive Gating of Flow Cytometry Data**
Evan Greene, Fred Hutchinson Cancer Research Center

11:45 am **Hidden Markov Random Field Regression Models for Single-Cell Assays with Applications to Vaccine Studies**
Amit Nathan Meir, Fred Hutchinson Cancer Research Center

12:10 pm *Floor Discussion*

Student Paper Session 4

Organizer: Program   **Room:** Zia C   **Session Chair:** Adam Branscum

10:30 am **Effect of Variable Cluster Sizes and Treatment Group Imbalance on Power in Stepped Wedge Designs**
Erin Leister, University of Colorado, School of Public Health

10:50 am **A Machine Learning Alternative to P-values**
Min Lu, University of Miami

11:10 am **Assessing Personalized Differential Expression from Two Transcriptomes of an Individual -- A Step Toward Precision Medicine**
Qike Li, University of Arizona

11:30 am *Floor Discussion*

Contributed Session 5: Prediction and Clustering Tools

Organizer: Program   **Room:** DeVargas   **Session Chair:** Ja-An Lin

10:30 am **Predicting Future Chronic Opioid Use in Imbalanced Data**
Kathryn L. Colborn, University of Colorado

10:50 am   **Clustering Deviations from Adjusted Trajectories to Explore Factors Impacting Young Females' Physical Activity Levels**
Amy LaLonde, University of Rochester

11:10 am   **Clustering Adult Cystic Fibrosis and Chronic Obstructive Pulmonary Disease Patients Based on Lung Function Dynamics**
Barbara Ann Bailey, San Diego State University

11:30 am   **Heterogeneous Reciprocal Graphical Models**
Yang Ni, The University of Texas at Austin

11:50 am   *Floor Discussion*

Tuesday, June 27, 2017, 1:45 – 3:30 pm

WNAR Invited Session 9: Reproducibility in Statistical Research: Theory and Practice
Organizer: Julian Wolfson   **Room:** Zia A   **Session Chair:** Orrin Myers

1:45 pm   **Defining and Evaluating Reproducibility and Replicability**
Prasad Patil, Harvard School of Public Health/Dana-Farber Cancer Institute

2:15 pm   **A Tool for Writing Shareable Simulation Studies**
Jacob Bien, Cornell University

2:45 pm   **The JASA Reproducibility Initiative: Lessons from the First Year**
Julian Wolfson, Division of Biostatistics, University of Minnesota School of Public Health

3:15 pm   *Floor Discussion*

WNAR Invited Session 10: Recent Advances in Statistical Methods for the Missing Data Problem
Organizer: Lihong Qi   **Room:** Zia B   **Session Chair:** Yulei He

1:45 pm   **Multiple-Imputation Diagnostics Using Propensity Scores**
Yulei He, National Center for Health Statistics, U.S. Centers for Disease Control and Prevention

2:15 pm   **Strategies to Impute Multiple Missing Covariates in Accelerated Failure Time Models via MICE**
Ying-Fang Mary Wang, Center for Teacher Quality, California State University

2:45 pm   **Efficient Estimation of Linear Regression Models for Combining "Internal" Small Data and "External" Big Data.**
Wei-Yann Tsai, Department of Biostatistics, Columbia University

3:15 pm   *Floor Discussion*

Contributed Session 6: Ecological Statistics
Organizer: Program   **Room:** Zia C   **Session Chair:** Erik Erhardt

1:45 pm   **Using State-Space Models and Multiple Data Sources to Model Fish Population Dynamics**
Ken Newman, US Fish & Wildlife Service

2:05 pm   **Species Distribution for Combined Data Sources**
Ian Renner, University of Newcastle, Australia

2:25 pm   **Bayesian Spatio-Temporal Modeling for Use of Remote Sensing Observation to Monitor Change in Forest Conditions**
Md Kamrul Hasan Khan, University of Arkansas

2:45 pm   *Floor Discussion*

Contributed Session 7: Complex Modeling		
Organizer: Program	**Room:** DeVargas	**Session Chair:** Megan Othus

1:45 pm   **Hierarchical Copula Regression Models for Areal Data**
John Hughes, University of Colorado Denver

2:05 pm   **Mediation Analysis with Multiple Factors – With an Application to Explore Racial Disparity in Obesity Using NHANES Data**
Qingzhao Yu, Louisiana State University Health Sciences Center

2:25 pm   **Assessment of Synergy in Drug-Drug Combinations**
Shouhao Zhou, MD Anderson Cancer Center

2:45 pm   **Statistical Methods for Weighting Biomarkers to Maximize Signal Diversity, with Application to HIV-1 Vaccine Studies**
Zonglin He, Fred Hutchinson Cancer Research Center

3:05 pm   *Floor Discussion*

Wednesday, June 28, 2017, 8:30 – 10:15 am

WNAR Invited Session 11: Recent Advances in Biomarkers for Risk Prediction and Treatment Selection		
Organizer: Yingqi Zhao	**Room:** Zia A	**Session Chair:** Chris Sroka

8:30 am   **The Change-Plane Cox Model**
Susan Wei, Division of Biostatistics, University of Minnesota

9:00 am   **Efficient Estimation of Infinite-Dimensional Parameters in Two-Phase Designs**
Alex Luedtke, Fred Hutchinson Cancer Research Center

9:30 am   **Value of Information Methods for Optimal Timing of Biomarker Collection**
Aasthaa Bansal, University of Washington

10:00 am   *Floor Discussion*

IMS Invited Session 2: Recent Developments in Observational Data		
Organizer: Alex Luedtke	**Room:** Zia B	**Session Chair:** Andrew Spieker

8:30 am   **Projected Pointwise Estimation of Shape-Constrained Functions**

Ted Westling, University of Washington

9:00 am   **The Highly Adaptive Lasso and Efficient Estimation of Causal Effects**
David Benkeser, Emory University Department of Biostatistics and Bioinformatics

9:30 am   **Nonparametric Causal Effects Based on Incremental Propensity Score Interventions**
Edward Kennedy, Carnegie Mellon University

10:00 am   *Floor Discussion*

Contributed Session 8: Parametric, Semiparametric, and Flexible Modeling

Organizer: Program   **Room:** Zia C   **Session Chair:** Mourad Tighiouart

8:30 am   **Jackknife Empirical Likelihood for Linear Treatment Effect**
Cornelis Potgieter, Southern Methodist University

8:50 am   **Small Sample Inference for Rank-Based Inference with Probabilistic Index Models**
Olivier Thas, Ghent University, Belgium and University of Wollongong, Australia

9:10 am   **Smoking During Pregnancy: A Semiparametric Approach Using Recursive Differencing**
Chan Shen, University of Texas MD Anderson Cancer Center

9:30 am   **Analyzing Familial Data Using Vines and Pair-Copula Constructions**
N. Rao Chaganty, Old Dominion University

9:50 am   *Floor Discussion*

Contributed Session 9: Genetics and Genomics

Organizer: Program   **Room:** DeVargas   **Session Chair:** Sarah Emerson

8:30 am   **A Bayesian Approach to Detect Common and Rare Variant Associations by Integrating Gene Expression Data**
Sharon Lutz, University of Colorado, Anschutz Medical Campus

8:50 am   **Bayesian Group Lasso for Variable Selection in Multilevel Functional Data and Its Application to Shape Genetic Mapping**
Xiaotian Dai, Utah State University

9:10 am   **Comparison of Platform Adjustment Methods for Identifying PAM50 Breast Cancer Intrinsic Subtypes**
Minya Pu, University of California, San Diego, Moores Cancer Center

9:30 am   **R2GPU: A Very Simple R Interface for General Purpose Computing on Nvidia Graphical Processing Units**
Stanley B Pounds, St. Jude Children's Research Hospital

9:50 am   *Floor Discussion*

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Historic Santa Fe

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To: U.S. 84-285 North
Bandelier, Chimayo,
Taos, Los Alamos
& the S.F. Opera
(See Day Trip Map)

Bishop's Lodge Rd.
To Shidoni, Rancho Encantado
and Tesuque

Hyde Park
Ski Basin Rd.
10,000 Waves Bathhouse

Artist Rd.

DeVargas
Shopping
Center

Kearny

Scottish
Rite
Temple

Magdalena

Paseo de Peralta

Paseo de Peralta

To
St. Francis Dr.

Cross
of the
Martyrs

Post Office

Catron

To: U.S. 84-285 South

Grant

Griffin

So. Federal

PARKING

City
Hall

Otero

Marcy

Staab

CVB

McKenzie

Chapelle

O'Keeffe
Museum

Sheridan

Johnson

Guadalupe St

Hillside

Nusbaum

Washington

SENA PLAZA

Cienega

NM
MoA

NMHM
POG

Lincoln

Palace Ave.

Palace Ave.

San Francisco

Burro Alley

PLAZA

St. Francis
Cathedral

Paseo de Peralta

W. Water St

PARKING

Water St

Alameda

Sandoval

PARKING

Cathedral Pl.

PARKING

PVMIWA

Old Guadalupe
Santuario

Agua Fria

Ortiz

Shelby

Loretto
Chapel

Alameda

Delgado St.

Santa Fe River

Canyon Rd

Canyon

Guadalupe St

Galisteo

Sanbusco
Shopping
Center

Aztec

DeVargas

Oldest
House

Garcia St.

Montezuma

Don Gaspar

Old Santa Fe Trail

Oldest
Church

Rail Yard
District

Garfield

Sandoval

Read

Cerrillos Rd.

Galisteo

S. Capitol

STATE
CAPITOL
BLDG.

Visitor
Center

Paseo de Peralta

Manhattan

Acequia
Madre

To: I-25 via
St. Francis Dr.
US 84-285

Paseo de Peralta

Webber

To I-25
via Old Pecos Trail

To: Museum Hill
on the Old Santa Fe Trail
Distance from Plaza to Mus. Hill is 1.7mi.

Farmers
Market

Alarid

St. Francis Dr.

US 84-285 To: I-25

Cerrillos Rd.

W. San Mateo

IAIA	= Institute of American Indian Arts Mus.
NMHM	= NM History Museum
NMMoA	= NM Museum of Art
POG	= Palace of the Governors
PVMIWA	= Pablita Velarde Museum
CVB	= Convention & Visitors Bureau

Museum of International Folk Art
Museum of Indian Arts & Culture
Museum of Spanish Colonial Art
Wheelwright Museum

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