Kansas State University Libraries

New Prairie Press

Editor's Preface and Table of Contents

Gary L. Gadbury

Follow this and additional works at: https://newprairiepress.org/agstatconference

Part of the Agriculture Commons, and the Applied Statistics Commons

This work is licensed under a Creative Commons Attribution-Noncommercial-No Derivative Works 4.0 License.

Recommended Citation

Gadbury, Gary L. (2009). "Editor's Preface and Table of Contents," *Conference on Applied Statistics in Agriculture*. https://doi.org/10.4148/2475-7772.1072

This is brought to you for free and open access by the Conferences at New Prairie Press. It has been accepted for inclusion in Conference on Applied Statistics in Agriculture by an authorized administrator of New Prairie Press. For more information, please contact cads@k-state.edu.

Program

www.ksu.edu/stats/agstat.conference

Twenty-First ANNUAL

Kansas State University Conference

on

APPLIED STATISTICS IN AGRICULTURE

Clarion Hotel
Manhattan, Kansas

April 19–21, 2009

New Prairie Press
https://newprairiepress.org/agstatconference/2009/proceedings/1

Preface

These proceedings contain papers presented in the twenty-first annual Kansas State University Conference on Applied Statistics in Agriculture, held in Manhattan, Kansas, April 19 - April 21, 2009. The purpose of the conference is to provide a forum for discussion on the application of statistics to problems in agricultural sciences. Papers and posters presented at the conference and included in the proceedings are intended to provide information to both the statistician and agricultural researcher on current issues of agricultural and general statistical interest. More than one hundred registrants for this year's conference came from across the country and represented government, industry, and academia.

The keynote speakers were George Milliken and Dallas Johnson, emeriti faculty from Kansas State University. Dr's. Milliken and Johnson presented a workshop on April 19 titled "Analysis of Messy Data Revisions" that included updates from their recently published second edition of volume I, *Designed Experiments*.

Each contributed paper was refereed before being accepted for publication in these proceedings. The papers were accepted for publication based on their interest, relevance, innovation and application to the agricultural sciences and statistics.

Sincere thanks to the following individuals: Philip Dixon, Adam Pintar, Debbie Boykin, Matt Kramer, Bill Price, Kathy Yeater, Leigh Murray, Edzard Van Santen, John Stevens, Jixiang Wu, Brent Burch, Qinfang Xiang, John Keighley, V.A. Samaranayake, Haiyan Wang, John Boyer, and Jim Higgins for referring submitted manuscripts, Pam Schierer and student volunteers for help in conference planning and organization, and Julie Dillingham for managing the reviewing process and for assembling the proceedings. Special thanks go to our conference sponsors for their continued support: American Statistical Association, Eli Lilly & Company, Pfizer Inc, Pioneer Hi Bred-a Dupont Business and the USDA-ARS.

Gary L. Gadbury
2009 Proceedings Editor

Table of Contents

Associating SNPS With Binary Traits **5**
Alexander E. Lipka, Purdue University
George P. McCabe, Purdue University
R.W. Doerge, Purdue University

Bayesian Nonparametric Biosassay Estimation **20**
Bahman Shafii, University of Idaho
William J. Price, University of Idaho

Relative Potency Estimation in Direct Bioassay with Measurement Errors **39**
Weixing Song, Kansas State University

Hierarchical Bayesian Methods to Model Heterogeneity in Cow-and Herd-Level Relationships between Milk Production and Reproduction in Dairy Cows **54**
Nora M. Bello, Michigan State University
Juan P. Steibel, Dept. of Fisheries and Wildlife, Michigan State University
Robert J. Tempelman, Michigan State University

Statistical Issues in Next-Generation Sequencing **69**
Paul L. Auer, Purdue University
R.W. Doerge, Purdue University

Comparative Study of Time Series and Multiple Regression for Modeling Dependence of Cattle Body Temperature on Environmental Variables During Heat Stress **85**
M. Pathak, University of Nebraska
A.M. Parkhurst, University of Nebraska
R.A. Arias, University of Nebraska
T.L. Mader, University of Nebraska

Application of the DYA Method to Compare Wheat Cultivar Yields **105**
Arlin Feyerherm, Kansas State University
Allan Fritz, Kansas State University

Statistical Methods for Affymetrix Tiling Array Data **111**
Gayla R. Olbricht, Purdue University
Nagesh Sardesai, Purdue University
Stanton B. Gelvin, Purdue University
Bruce A. Craig, Purdue University,
R.W. Doerge, Purdue University

Mapping QTL with Covariates **126**
Cherie A. Ochsenfeld, Purdue University
Kristofer Jennings, Purdue University
R.W. Doerge, Purdue University

A Stem Profile Model Calibrated by Nonlinear Mixed-Effects Modeling **141**
Yuqing Yang, Alberta Dept. of Sustainable Resource Development, Canada
Shongming Huang, Alberta Dept. of Sustainable Res. Development, Canada
Shawn X. Meng, Alberta Dept. of Sustainable Resource Development, Canada

Sequential Bayesian Classification: DNA Barcodes **156**
Michael P. Anderson, Kansas State University
Suzanne Dubnicka, Kansas State University

Using Time Series to Study Dynamics of Sweat Rates of Holstein Cows Exposed to Initial and Prolonged Solar Heat Stress **171**
B. Liang, University of Nebraska
A.M. Parkhurst, University of Nebraska
K.G. Gebremedhin, Cornell University
C.N. Lee, University of Hawaii
R.J. Collier, University of Arizona
P.E. Hillman, Cornell University

Comparing Experimental Designs for a Bi-Logistical Model Used to Estimate Heat Stress When Moving Feedlot Cattle **182**
X. Li, University of Nebraska
A.M. Parkhurst, University of Nebraska
T.L. Mader, University of Nebraska

Using Time Series To Study Effect of Air Temperature on Body Temperature of Cows in Puerto Rico **198**
Y. Zeng, University of Nebraska
A.M. Parkhurst, University of Nebraska
J. Pantoja, University of Puerto Rico

Proc Report in Style **212**
Wendy Boberg, Arkansas Foundation for Medical Care, Arkansas

2009 List of Attendees **227**

2009 Ag Conference Attendees

Achberger, Tilman-Purdue University`
Anderson, Steven- Anderson Research, LLC
Aref, Susanne- Aref Consulting Group, LLC
Bahman, Shafii-University of Idaho
Bargen, Jason-AgSpan
Baumann, Douglas-Purdue University
Bello, Nora-Michigan State University
Blankenship, Erin-University of Nebraska
Boberg, Wendy-AFMC
Boykin, Debbie-USDA/ARS
Brejda, John-University of Nebraska
Brennan, Meghan-University of Florida
Brewer, James
Camp, Mary-USDA/ARS
Cheng, Fu-Chih-North Dakota State University
Chernoff, William-Kansas State University
Cochrane, Chun-Yen-Kansas State University
Cui, Zhanglin-Eli Lilly & Company
Dixon, Philip-Iowa State University
Doerge, Rebecca-Purdue University
Durham, Susan-Utah State University
Fabellar, Anabella-Monsanto Company
Feng, Lizhi-Pioneer Hybrid International, Inc.
Fergen Brian-USDA, APHIS, VS, CVB
Feyerherm, Arlin-Kansas State University
Gbur, Edward-University of Arkansas
Green, Jennifer-University of Nebraska
Hagel, Emily-University of Nebraska
Hassen, Abebe-Pioneer Hybrid International, Inc
Heaton, Louis-USDA/ARS
Hinds, Mark-Pioneer Hi-Bred Int'l
Hong, Bonnie-Pioneer Hybrid International Inc.
Huang, Xuewen-Monsanto Company
Jiang, Dongming-Monsanto Company
Johnson, LuAnn-UND-GFHNRC
Jun, Hyoungjin-Kansas State University
Kadaru, Suresh – Syngenta Seeds, Inc.
Keating, Karen-Kansas State University
Kramer, Matt-USDA?ARS
Kratzer, Dal-ESCI
Kreider, Scott
Lamm, Freddie-NW Research-Extension Ctr.
Li, Xiaopeng-University of Nebraska
Liang, Bixia-University of Nebraska
Library, Albert Mann
Lipka, Alexander
Liu, Jia-Iowa State University
Livermore Auer, Paul-Purdue University
Luo, Lang
Mackey, Bruce-USDA/ARS
MacKinnon, April-Milliken Associates, Inc.
Malladi, Sukhaswami-Hills Pet Nutrition, Inc.
Meek, David-USDA/ARS
Murray, Leigh-Kansas State University
Ochsenfeld, Cherie-Purdue University
Olbricht, Gayla-Purdue University
Ou, Zhining-Kansas State University
Page, Garritt-Iowa State University
Palmquist, Debra-USDA/ARS
Parkhurst, Anne-University of Nebraska
Pathak, Manoj-University of Nebraska
Peng, Liang-Kansas State University
Perera, Muditha-Kansas State University
Phillips, Gregory-USDA, NWRC
Pintar, Adam-Iowa State University
Price, Bill-University of Idaho
Ramirez, Girly-Kansas State University
Ridpath, Harold-Ctr. For Veterinary Biologics
Rogers, Paul
Samarakoon, Nishantha-Kansas State University
Scherer, Peter-Dow AgroSciences
Senne, Lane
Smith, David-New Mexico State University
Song, Tingting-Kansas State University
St. Pierre, Normand-Ohio State University
Staudhammer, Christina-University of Florida
Stevens, John-Utah State University
Stroup, Walt-University of Nebraska
Thompson, Kevin-University of Arkansas
Tolos, Siti-Kansas State University
Trapp, Alln-Iowa State University
Vahl, Christopher-North Dakota State University
Van Santen, Edsard-Auburn University
VanDyke, Rhonda-University of Cincinnati

2009 Ag Conference Attendees

Vinyard, Bryan-USDA/ARS
Wang, Dong-University of Nebraska
Whitehand, Linda-Western Regional Res. Ctr.
Wu, Jixiang-Mississippi State University
Xie, Lin
Yankovskyy, Yevhen-University of Kansas
Yates, Heath-Kansas State University
Yeater, Kathy-USDA/ARS
Yu, Jianming-Kansas State University
Yum, Man Yu-Iowa State University
Zeng, Yan-University of Nebraska
Zeng, Beiyan-Monsanto Company
Zhu, Chengsong-Kansas State University
Zoh, Roger- Iowa State University

Proceedings

APPLIED STATISTICS IN AGRICULTURE

April 19 – 21, 2009

Sponsored by:
Department of Statistics
Kansas State University
Manhattan, Kansas 66506

New Prairie Press
https://newprairiepress.org/agstatconference/2009/proceedings/1