The 2015 Technometrics Prizes

The 2015 *Technometrics* Prizes

The 2015 Jack Youden Prize for Best Expository Paper was awarded to *Andrew Hoegh, Scotland Leman, Parang Saraf and Naren Ramakrishnan* for their article **"Bayesian Model Fusion for Forecasting Civil Unrest."** The 2015 Frank Wilcoxon Prize for Best Practical Application Paper was awarded to *Yili Hong, Yuanyuan Duan, William Q. Meeker, Deborah L. Stanley and Xiaohong Gu* for their article **"Statistical Methods for Degradation Data with Dynamic Covariates Information and an Application to Outdoor Weathering Data."** Each prize consists of a certificate and a cash award.

PAST WINNERS OF TECHNOMETRICS PRIZES (1969–2015)

Jack Youden Prize for Best Expository Paper

1969   *A. R. Eckler*—A Survey of Coverage Problems Associated With Point and Area Targets;
Frank E. Grubbs—Procedures for Detecting Outlying Observations in Samples

1970   *G. J. Hahn and W. Nelson*—A Problem in the Statistical Comparison of Measuring Devices;
M. J. Box—Some Experiences With a Nonlinear Experimental Design Criterion

1971   *N. R. Draper and I. Guttman*—Bayesian Estimation of the Binomial Parameter N;
H. W. Hager, L. J. Bain, and C. E. Antle—Reliability Estimation for the Generalized Gamma Distribution and Robustness of the Weibull Model

1972   *J. Youden*—Enduring Values;
J. Youden—Randomization and Experimentation;
P. T. Pop and J. T. Webster—The Use of an F-Statistic in Stepwise Regression Procedures;
S. S. Shapiro and M. B. Wilk—An Analysis of Variance Test for the Exponential Distribution (Complete Samples)

1973   *J. A. Cornell*—Experiments With Mixtures: A Review

1974   *D. W. Marquardt and R. D. Snee*—Test Statistics for Mixture Models;
J. T. Webster, R. F. Gunst, and R. L. Mason—Latent Root Regression Analysis;
Svante Wold—Spline Functions in Data Analysis

1975   *Donald M. Olsson and Lloyd S. Nelson*—The Nelder–Mead Simplex Procedures for Function Minimalization;
Douglas Zahn—Modifications of and Revised Critical Values for the Half-Normal Plot;
Douglas Zahn—An Empirical Study of the Half-Normal Plot

1976   *R. R. Hocking, F. M. Speed, and M. J. Lynn*—A Class of Biased Estimators in Linear Regression

1977   *R. D. Snee*—Validation of Regression Models: Methods and Examples

1978   *Kenneth N. Berk*—Comparing Subset Regression Procedures;
Jerald F. Lawless—Confidence Interval Estimation for the Weibull and Extreme Value Distributions

1979   *Norman R. Draper and R. Craig Van Nostrand*—Ridge Regression and James–Stein Estimation: Review and Comments

1980   *Edward J. Dudewicz*—Ranking (Ordering) and Selection: An Overview of How to Select the Best;
D. M. Titterington—Aspects of Optimal Design on Dynamic Systems

1981   *W. J. Conover, Mark E. Johnson, and Myrle M. Johnson*—A Comparative Study of Tests for Homogeneity of Variances With Applications to the Outer Continental Shelf Bidding Data

1982   *D. M. Rocke, W. G. Downs, and A. J. Rocke*—Are Robust Estimators Really Necessary?

1983   *R. J. Beckman and R. D. Cook*—Outlier...s

1984   *David M. Steinberg and William G. Hunter*—Experimental Design: Review and Comment

1985   *Robert L. Mason and Richard F. Gunst*—Outlier-Induced Collinearities; Ajit C. Tamhane and Richard S. H. Mah—Data Reconciliation and Gross Error Detection in Chemical Process Networks

1986   *Corwin L. Atwood*—The Binomial Failure Rate Common Cause Model

1987   *Richard A. Becker and William S. Cleveland*—Brushing Scatterplots

1988   *George Box*—Signal-to-Noise Ratios, Performance Criteria, and Transformations

1989   *R. Dennis Cook and Sanford Weisberg*—Regression Diagnostics With Dynamic Graphics

1990   *James M. Lucas and Michael S. Saccucci*—Exponentially Weighted Moving Average Control Schemes: Properties and Enhancements

1991   *Leo Breiman*—The II Method for Estimating Multivariate Functions From Noisy Data

1992   *George Box and Tim Kramer*—Statistical Process Monitoring and Feedback Adjustments—A Discussion

1993   *R. Dennis Cook*—Exploring Partial Residue Plots

1994   *Carol A. Gotway*—The Use of Conditional Simulation in Nuclear-Waste-Site Performance Assessment

1995   *Michael Laviolette, John W. Seaman, Jr., J. Douglas Barret, and William H. Woodall*—A Probabilistic and Statistical View of Fuzzy Methods

1996   *Bryan D. Olin and William Q. Meeker*—Applications of Statistical Methods to Nondestructive Evaluation

1997   *Bo Bergman and Anders Hynen*—Dispersion Effects From Unreplicated Designs in the 2kp Series;
      Don X. Sun, C. F. Jeff Wu, and Youyi Chen—Optimal Blocking Schemes for 2n and 2np Designs

1998   *William Q. Meeker, Luis A. Escobar, and C. Joseph Lu*—Accelerated Degradation Tests: Modeling and Analysis

1999   *Francis G. Pascual and William Q. Meeker*—Estimating Fatigue Curves With the Random Fatigue-Limit Model

2000   *Max Morris*—A Class of Three-Level Experimental Designs for Response Surface Modeling

2001   *William A. Brenneman and Vijayan N. Nair*—Methods for Identifying Dispersion Effects in Unreplicated Factorial Experiments: A Critical Analysis and Proposed Strategies

2002   *Huaiqing Wu and William Q. Meeker*—Early Detection of Reliability Problems Using Information From Warranty Databases

2003   *W. H. Woodall, R. Koudelik, K.-L. Tsui, S. B. Kim, Z. G. Stoumbos, and C. P. Carvounis*—A Review and Analysis of the Mahalanobis–Taguchi System

2004   *V. Roshan Joseph and C. F. Jeff Wu*—Failure Amplification Method: An Information Maximization Approach to Categorical Response Optimization

2005   *Daniel Pena*—A New Statistic for Influence in Linear Regression

2006   *Crystal Linkletter, Derek Bingham, Nicholas Hengartner, David Higdon, and Kenny Q. Ye*—Variable Selection for Gaussian Process Models in Computer Experiments

2007   *Maria J. Bayarri, James O. Berger, Rui Paulo, Jerry Sacks, John A. Cafeo, James Cavendish, Chin-Hsu Lin, and Jian Tu*—A Framework for Validation of Computer Models

2008   *Leland Wilkinson*—The Future of Statistical Computing

2009   *Ying Shi, Luis A. Escobar, and William Q. Meeker*—Accelerated Destructive Degradation Test Planning

2010   *Adrian E. Raftery, Mirolsav Karny, and Pavel Ettler*—Online Prediction Under Model Uncertainty via Dynamic Model Averaging: Application to a Cold Rolling Mill

2011   *Bradley Jones and Christopher J. Nachtsheim*—Efficient Designs With Minimal Aliasing

2012   *Derek Bingham and Vijayan N. Nair*—Noise Variable Settings in Robust Design Experiments

2013   *Mark C. Albrecht, Christopher J. Nachtsheim, Thomas A. Albrecht, and R. Dennis Cook*—Experimental Design for Engineering Dimensional Analysis

2014   *Danel Draguljic, David C. Woods, Angela M. Dean, Susan M. Lewis, and Anna-Jane E. Vine*—Screening Strategies in the Presence of Interactions

2015   *Andrew Hoegh, Scotland Leman, Parang Saraf and Naren Ramakrishnan*—Bayesian Model Fusion for Forecasting Civil Unrest

Frank Wilcoxon Prize for Best Practical Application Paper

1969   *Frank E. Grubbs*—Procedures for Detecting Outlying Observations in Samples;
      W. L. Nicholson and K. R. Merckx—Unfolding Particle Size Distribution

1970   *C. H. Goldsmith and D. W. Gaylor*—Three Stage Nested Designs for Estimating Variance Components;
      L. R. LaMotte and R. R. Hocking—Computational Efficiency in the Selection of Regression Variables

1971   *J. Mandel*—A New Analysis of Variance Model for Non-Additive Data;
      W. H. Lawton and E. A. Sylvestre—Self Modeling Curve Regression

1972   *G. L. Tietjen and R. H. Moore*—An Extension of Some Grubbs-Type Statistics for the Detection of Several Outliers;
      W. Nelson—Theory and Applications of Hazard Plotting for Censored Failure Data;
      R. D. Snee—On the Analysis of Response Curve Data

1973   *G. E. P. Box, W. H. Hunter, J. F. MacGregor, and J. Erjavac*—Some Problems Associated With the Analysis of Response Curve Data

1974   *A. E. Beaton and J. W. Tukey*—The Fitting of Power Series, Meaning Polynomials, Illustrated on Band Spectroscopic Data;
      P. I. Feder—Graphical Techniques in Statistical Data Analysis—Tools for Extracting Information From Data;
      E. A. Sylvestre, W. H. Lawton, and M. S. Maggio—Curve Resolution Using a Postulated Chemical Reaction

1975   *W. S. Cleveland and Beat Kleiner*—A Graphical Technique for Enhancing Scatter Plots With Moving Statistics;
      Ronald D. Snee—Experimental Designs for Quadratic Models in Constrained Mixture Spaces

1976   *Brian L. Joiner and Cathy Campbell*—Designing Experiments When Run Order Is Important;
      William S. Cleveland and Roberta Guarino—Some Robust Statistical Procedures and Their Application to Air Pollution Data

1977   *Brian L. Joiner*—Evaluation of Cryogenic FlowMeters: An Example in Non-Standard Experimental Design and Analysis

1978   *Cuthbert Daniel*—Patterns in Residuals in the Two-Way Layout

1979   *Josef Schmee and Gerald J. Hahn*—A Simple Method for Regression Analysis With Censored Data

1980   *Thomas J. Lorenzen*—Determining Statistical Characteristics of a Vehicle Emissions Audit Procedure

1981   *Russell V. Lenth*—On Finding the Source of a Signal;
        Ronald D. Snee—Developing Blending Models for Gasoline and Other Mixtures

1982   *R. L. Berger*—Multiparameter Hypothesis Testing and Acceptance Sampling

1983   *R. D. Cook and P. C. Wang*—Transformations and Influential Cases in Regression

1984   *J. Brian Gray and Robert F. Ling*—K-Clustering as a Detection Tool for Influential Subsets in Regression

1985   *R. J. Carroll and David Ruppert*—Transformations in Regression: A Robust Analysis

1986   *Vijayan N. Nair*—Testing in Industrial Experiments With Ordered Categorical Data

1987   *William Q. Meeker, Jr.*—Limited Failure Population Life Tests: Application in Integrated Circuit Reliability

1988   *G. J. Hahn and T. E. Raghunathan*—Combining Information From Various Sources: A Prediction Problem and Other Industrial Applications

1989   *Richard D. De Veaux and Michael J. Steele*—ACE Guided-Transformation Method for Estimation of the Coefficient of Soil-Water Diffusivity

1990   *M. Hamada and C. F. Jeff Wu*—A Critical Look at Accumulation Analysis and Related Methods

1991   *Christopher Morrell and Richard A. Johnson*—Random Truncation and Neutrinos

1992   *Sybil L. Crawford, Morris H. DeGroot, Joseph B. Kadane, and Mitchell J. Small*—Modeling Lake-Chemistry Distributions: Approximate Bayesian Methods for Estimating a Finite-Mixture Model

1993   *Richard F. Gunst and Nelson A. Kelly*—Captive-Air Irradiation Experiments on Ozone Formation in Southern California

1994   *Karen Kafadar*—An Application of Nonlinear Regression in Research and Development: A Case Study From the Electronics Industry

1995   *William Q. Meeker and Michael J. LaValle*—An Accelerated Life Test Based on Reliability Kinetics

1996   *Harry F. Martz, Paul H. Kvam, and Lee R. Abramson*—Empirical Bayes Estimation of the Reliability of Nuclear-Power-Plant Emergency Diesel Generators

1997   *Søren Bisgaard and David M. Steinberg*—The Design and Analysis of 2kp Prototype Experiments;
        Peter S. Wludyka and Peter R. Nelson—An Analysis-of-Means-Type Test for Variances From Normal Populations

1998   *Siddhartha R. Dala and Colin L. Mallows*—Factor-Covering Designs for Testing Software;
        X. Joan Hu, Jerald F. Lawless, and Kazuyuki Suzuki—Nonparametric Estimation of a Lifetime Distribution When Censoring Times Are Missing

1999   *Francis G. Pascual and William Q. Meeker*—Estimating Fatigue Curves With the Random Fatigue-Limit Model

2000   *Chuanhai Liu and Don X. Sun*—Analysis of Interval-Censored Data From Fractionated Experiments Using Covariance Adjustment

2001   *Scott D. Grimshaw, Bruce J. Collings, Wayne A. Larsen, and Carolyn R. Hurt*—Eliciting Factor Importance in a Designed Experiment

2002   *Steven Golowich, James Landwehr, and Scott Vander Wiel*—Interplay Between Physics and Statistics for Modeling Optical Fiber Bandwidth

2003   *Daniel R. Jeske and Ashwin Sampath*—Estimation of Clock Offset Using Bootstrap Bias-Correction Techniques

2004   *Stefan H. Steiner and R. Jock MacKay*—Scale Counting

2005   *German Molina, M. J. Bayarri, and James O. Berger*—Statistical Inverse Analysis for a Network Microsimulator

2006   *Dale N. Anderson, David C. Stromswold, Sharon C. Wunschel, Anthony J. Peurrung, and Randy R. Hansen*—Detection and Location of Gamma-Ray Sources With a Modulating Coded Mask

2007   *Todd Graves, Michael Hamada, Jane Booker, Michele Decroix, Kathy Chilcoat, and Clint Bowyer*—Estimating a Proportion Using Strati.ed Data From Both Convenience and Random Samples

2008   *Xuemei Shan and Daniel W. Apley*—Blind Identification of Manufacturing Variation Patterns by Combining Source Separation Criteria

2009   *Max D. Morris, Brad Dilts, Stuart J. Birrell, and Philip M. Nixon*—Composite Response Surface Designs for Factors With Jointly Symmetric Effects

2010   *Richard A. Becker, Chris Volinsky, and Allan R. Wilks*—Fraud Detection in Telecommunications: A Historical Perspective and a Look Forward.

2011   *Chae Young Lim and Sarat C. Dass*—Assessing Fingerprint Individuality Using EPIC: A Case Study in the Analysis of Spatially Dependent Marked Processes

2012   *Amy J. Braverman, Eric J. Fetzer, Brian H. Kahn, Evan M. Manning, Robert B. Oliphant and Joao P. Teixeira*—Massive Dataset Analysis for NASA's Atmospheric Infrared Sounder

2013   *Matthew T. Pratola, Stephan R. Sain, Derek Bingham, Michael Wiltberger, and E. Joshua Rigler*—Fast Sequential Computer Model Calibration of Large Nonstationary Spatial-Temporal Processes

2014   *Hai Nguyen, Noel Cressie, Matthias Katzfuss, and Amy Braverman*—Spatio-Temporal Data Fusion for Very Large Remote Sensing Datasets

2015   *Yili Hong, Yuanyuan Duan, William Q. Meeker, Deborah L. Stanley and Xiaohong Gu*—Statistical Methods for Degradation Data With Dynamic Covariates Information and an Application to Outdoor Weathering Data