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Career Summary

1994-2000: Chair of Applied Statistics, University of Minnesota.

1986-2016: Professor, School of Statistics, University of Minnesota.

1975-1986: Managing Director, Douglas M Hawkins Consultants (Pty) Ltd.

1978-1986: Senior Consultant, Operations Research and Statistics, Council for Scientific and Industrial Research, Pretoria, South Africa.

1973-1978: Professor and Head of Statistics, Witwatersrand University, Johannesburg.

1999- : Statistical Advisor to United States Food and Drug Administration.

-- Academic visitor to University of Sussex, England; University of North Carolina, Chapel Hill, NC; and University of Queensland, Australia.

Awards and Honors

2014: American Statistical Association Joint Research Conference honoree in recognition of contributions to industrial statistics.

2005: William G. Hunter Award, American Society for Quality, for 'excellence in statistics'.

2004: Statistics in Chemistry Award, American Statistical Association, for the paper 'Assessing Model fit by Cross-validation', D. M. Hawkins, S. C. Basak, D. Mills.

2004: Shewhart Medal, American Society for Quality, awarded for making 'the most outstanding contribution to the science and techniques of quality control.'

1998: Outstanding Manuscript Award, Association for the Advancement of Medical Instrumentation, for 'Individualized Control Chart for Blood Pressure (BP) and Heart Rate (HR) management', M. S. Lee, J. Y. Lee, G. Cornelissen, D. Hawkins, K. Gaarden, F. Halberg.

1998: Statistics in Chemistry Award, American Statistical Association, for the paper 'Analysis of a Large Structure-Activity Data Set using Recursive Partitioning', D. M. Hawkins, S. S. Young and A. Rusinko III.

1993: Ellis R Ott Foundation annual best paper award for the paper 'Multivariate Quality Control based on Regression-Adjusted Variables'.

1985: Claude Harris Leon Foundation Annual Award in recognition of consultancy and research contributions to knowledge and the community.

Authorship

Joint author '*Cumulative Sum Control Charts and Charting for Quality Improvement*', Springer Verlag, New York (1998);

Editor '*Topics in Applied Multivariate Analysis*', Cambridge University Press (1982);

Author '*Identification of Outliers*', Chapman and Hall, London (1980);

Author of some 200 papers in statistical methodology and applications.

Grants

National Science Foundation, Division of Mathematics and Statistics, 'Diagnostics for Structured Data and Quality Improvement', 1989-2007.

National Institutes for Health, Roadmap for Medical Research, 'Comparative and Web-enabled Virtual Screening', Grant 1 P20 HG003900-01. Co-investigator (2005-2007).

Air Force Office of Scientific Research, 'Prediction of Health and Environmental Hazards of Chemicals: A Hierarchical Approach using QMSA and QSAR'. Co-investigator, (1998-2008).

United States Department of Agriculture Agricultural Research Service, 'Behavior-Modifying Compounds for Disease Vector Control'. Co-investigator, (2004-2006)

National Institute for Neurological Disorder and Stroke, 'Structure-activity Relationships for Anti-convulsant Drug Development'. Co-investigator, (1992-1994).

Semiconductor Research Corporation Competitiveness Foundation, 'Development of a Curriculum on Quality Improvement in Microelectronics', (1990 - 1991).

Current Research Interests

Statistical quality improvement;

Large-array problems in bioinformatics and chemometrics;

Diagnostic methods, particularly in regression;

Applicable multivariate analysis.

Professional Societies - Fellowships, Honors and Posts

International Statistical Institute - Member;

American Statistical Association - Fellow;

American Society for Quality - Fellow;

South African Statistical Association - Fellow;

International Association for Mathematical Geology - Vice President 1982-1986.

Editorial:

Journal of Quality Technology (Associate Editor, 2000 –)
ASA/SIAM Book Series (Member of editorial advisory board, 1998-2007)
Journal of the American Statistical Association (Associate Editor, 1988 - 1998)
Technometrics (Associate Editor, 1987-1992)
Computational Statistics and Data Analysis (Associate Editor, 2003-2006)
Computers and Geosciences (Regional editor, 1975 - 1994)
Mathematical Geology (Editorial board, 1973 - 2000)

Biographical Details

United States citizen.

PhD, Witwatersrand University, Johannesburg, South Africa

BSc Honours, Statistics, (First Class) Witwatersrand University.

BSc, Statistics and Mathematics, Witwatersrand University.

Professional publications and supervision

Books

- 3 Hawkins, D. M., and Olwell, D. H., (1998), *Cumulative Sum Charts and Charting for Quality Improvement*, Springer Verlag, New York.
- 2 Hawkins, D. M., (Editor) (1982), *Topics in Applied Multivariate Analysis*, Cambridge University Press, and (1990), Japanese translation *Tahenryo Kaiseki no Riron to Jissai*, Medical Statistics Library, Tokyo.
- 1 Hawkins, D. M., (1980), *Identification of Outliers*, Chapman and Hall.

Selected technical reports and papers in professional journals

- 221 Hawkins, D. M. and Lombard, F., (2016), “Cusum Control for Data Following the von Mises Distribution”, *Journal of Applied Statistics*. <http://dx.doi.org/10.1080/02664763.2016.1202217>.
- 220 Hawkins, D. M., and Weckwerth, C. (2016) “Errors in Variables Regression with Value-censored Data”, *Journal of Chemometrics*. <http://dx.doi.org/10.1002/cem.2797>.
- 219 Hawkins, D. M. and Lombard, F., (2015), “Segmentation of Circular Data”, *Journal of Applied Statistics*, 42, 88-97. <http://dx.doi.org/10.1080/02664763.2014.934665>
- 218 Hawkins, D. M., (2014), “A Model for Assay Precision”, *Statistics in Biopharmaceutical Research* 6, 263-269 <http://dx.doi.org/10.1080/19466315.2014.899511>

- 217 Hawkins, D. M. and Maboudou-Tchao, E. M., (2013) "Smoothed Linear Modeling for Smooth Spectral Data." *International Journal of Spectroscopy*, Article ID 604548, 8 pages, 2013. <http://dx.doi.org/10.1155/2013/604548> .
- 216 Moore RG, Hawkins DM, Miller CM, Landrum LM, Gajewski W, Ball JJ, Allard JW, Skates SJ, (2014) "Combining clinical assessment and the Risk of Ovarian Malignancy Algorithm for the prediction of ovarian cancer", *Gynecologic Oncology*. 135 547-551 DOI: 10.1016/j.ygyno.2014.10.017
- 215 Hawkins, D. M., (2013) "A General Variance Model for Methods Comparison", *Journal of Chemometrics*, 27, 414-419. <http://dx.doi.org/10.1002/cem.2550>
- 214 Fogel, P., Hawkins, D. M., Beecher, C., Luta, G., and Young, S. S., (2013) "A Tale of Two Matrix Factorizations", *The American Statistician*, 67, 207-218. <http://dx.doi.org/10.1080/00031305.2013.845607>
- 213 Holland, M. D. and Hawkins, D. M. (2014) "A Control Chart Based on a Nonparametric Multivariate Change-Point Model," *Journal of Quality Technology* 46, 63-77.
- 212 Maboudou-Tchao, E., M., and Hawkins, D. M., (2013) "Detection of Multiple Change-Points in Multivariate Data", *Journal of Applied Statistics* , 40, 1979-1995 DOI: 10.1080/02664763.2013.800471
- 211 Hawkins, D. M. and Wu, Q., (2014) "The CUSUM and the EWMA Head-to-Head", *Quality Engineering* 26, 215-222. DOI:10.1080/08982112.2013.817014
- 210 Zamba, K. D., Tsiamyrtzis, P., and Hawkins, D. M., (2013) "A Three-State Recursive Sequential Bayesian Algorithm for Biosurveillance", *Computational Statistics and Data Analysis*, 58, 82-97.
- 209 Valcour, A., Blocki, F., Hawkins, D. M., and Rao, S. D., (2012), Effects of age and serum 25-OH-Vitamin D on serum parathyroid hormone levels, *Journal of Clinical Endocrinology and Metabolism*, 97, 3989-3995.
- 208 Maboudou-Tchao, E. M., and Hawkins, D. M., (2011) 'Self-Starting Multivariate Control Charts for Location and Scale', *Journal of Quality Technology*, 43, 113 – 126.
- 207 Zamba, K. D., Tsiamyrtzis, P., and Hawkins, D. M., (2011) "A Three-State Recursive Sequential Bayesian Algorithm for Biosurveillance", *Computational Statistics and Data Analysis*. <http://www.sciencedirect.com/science/article/pii/S0167947311001447>
- 206 Serrero, G., Hawkins D. M. Yue' B., Ioffe, O., Bejarano' P., Phillips' J. T., Head J. F., Elliott' R. L., Tkaczuk, K. R., Godwin, A. K., Weaver, J-E, Kim' W. E., (2011) "Association of GP88 (progranulin) tumor expression with decreased disease-free and overall survivals in breast cancer patients with ER positive invasive ductal carcinoma", *Journal of Clinical Oncology* 29, 15S, 71s.
- 205 Basak. S. C., Mills, D. M., and Hawkins, D. M., (2011), "Characterization of Dihydrofolate Reductases from Multiple Strains of Plasmodium falciparum Using

- Mathematical Descriptors of Their Inhibitors”, *Chemistry and Biodiversity*, 8, 440 - 453.
- 204 Tsiamyrtzis, P., and Hawkins, D. M., (2010) ‘Bayesian Start up Phase Mean Monitoring of an Autocorrelated Process that is Subject to Random Sized Jumps’, *Technometrics*, 52, 438 - 452.
- 203 Hawkins, D. M., and Kraker, J. J., (2010), ‘Deterministic Fallacies and Model Validation’, *Journal of Chemometrics*, 24, 188-193
- 202 Hawkins, D. M., and Deng, Q., (2010) ‘A Nonparametric Change Point Control Chart’, *Journal of Quality Technology*, 42, 165-173.
- 201 Hawkins, D. M. and Sharma, A., (2010) ‘Comparison of Measurements by Multiple Methods or Instruments’, *Journal of Biopharmaceutical Statistics*, 20 # 5, 965-984
- 200 Hawkins, D. M. and Deng, Q., (2009), ‘Combined Charts for Mean and Variance Information’, *Journal of Quality Technology*, 41, 415 – 425.
- 199 Hawkins, D. M., and Khan, D. M., (2009), ‘A Procedure for Robust Fitting in Nonlinear Regression’, *Computational Statistics and Data Analysis*, 53, 4500-4507.
- 198 Dukich, J. M., and Hawkins, D. M., (2009), ‘Identifying Shifts in Spread Using the Cauchy Cusum: An Application to the Japanese Yen / U.S. Dollar Exchange Rate’, *Applied Financial Economics* DOI: 10.1080/09603100903373272
- 197 Hawkins, D. M., (2008) ‘Outliers’, in *Wiley Encyclopedia of Clinical Trials*, eds R. D’Agostino, L. Sullivan and J. Massaro, Wiley New York.
- 196 Zamba, K. D., and Hawkins, D. M., (2009) ‘A Multivariate Change point Model for Change in Mean Vector and/or Covariance Structure’, *Journal of Quality Technology*, 41, 285 – 303.
- 195 Hawkins, D. M., Kraker, J. J., Basak, S. C., and Mills, D., (2008), ‘QSPR checking and validation: A case study with hydroxy radical reaction rate constant’, *SAR and QSAR in Environmental Research*, 19, 525-539.
- 194 Hawkins, D. M., ‘Recursive Partitioning’ (2009), *Wiley Interdisciplinary Reviews – Computational Statistics*, 1, eds E Wegman, Y. H. Said and D. W. Scott.
- 193 Basak, S. C., Mills, D., and Hawkins, D. M., (2008), ‘Predicting allergic contact dermatitis: A hierarchical structure-activity relationship (SAR) approach to chemical classification using topological and quantum chemical descriptors’, *Journal of Computer Aided Molecular Design*, 22, pp. 339-343.
- 192 Basak, S. C., Mills, D., Hawkins, D. M., Kraker, J. J., (2009) ‘Quantitative Structure-Activity Relationship (QSAR) Modeling of Human Blood:air Partitioning with Proper Statistical Methods and Validation’, *Chemistry & Biodiversity* 6, 487-502.
- 191 Zamba, K. D., Tsiamyrtzis, P, and Hawkins, D. M., (2009), ‘A Sequential Bayesian Control Model for Influenza-Like-Illnesses and Early Detection of Intentional Outbreaks’, *Quality Engineering*, 20, 495-507.

- 190 Zou, C., Qiu, P., and Hawkins D., (2009), 'Nonparametric Control Chart for Monitoring Profiles Using Change Point Formulation and Adaptive Smoothing', *Statistica Sinica*, 19, 1337-1357
- 189 Hawkins, D. M., and Maboudou-Tchao, E. M., (2008) 'Multivariate exponentially weighted moving covariance matrix' *Technometrics*, 50, 155-166.
- 188 Tsiamyrtzis, P., and Hawkins, D. M., (2008) 'A Bayesian EWMA Method to Detect Jumps at the Start-Up Phase of a Process', *Quality and Reliability Engineering International*, 24, 721-735.
- 187 Hawkins, D.M., Qiu, P., and Zamba, K. D., (2008) 'Change-point Methods', in *Encyclopedia of Quality and Reliability*, eds F. Ruggeri, F. Faltin and R. Kenett, Wiley.
- 186 Fogel, P., Young, S. S., Hawkins, D. M. and Ledirac, N., (2006), 'Inferential, Robust Non-negative Matrix Factorization Analysis of Microarray Data', *Bioinformatics*, 23, 44-49.
- 185 Tsiamyrtzis, P., and Hawkins, D. M., (2008) 'Bayesian Statistical Process Control', in *Encyclopedia of Quality and Reliability*, eds F. Ruggeri, F. Faltin and R. Kenett, Wiley.
- 184 Olive, D. J., and Hawkins, D. M., (2007), 'Behavior of Elemental Sets in Regression', *Statistics and Probability Letters*, 77, 621-624.
- 183 Zamba, K. D., and Hawkins, D. M., (2006) 'A Multivariate Change Point Model for Statistical Process Control', *Technometrics* 48, 539-549
- 182 Kraker, J. J., Hawkins, D. M., Basak, S. C., Natarajan R., and Mills, D., (2007), 'Quantitative Structure-Activity Relationship (QSAR) Modeling of Juvenile Hormone Activity: Comparison of Validation Procedures', *Chemometrics and Intelligent Laboratory Systems*, 87, 33-42.
- 181 Tsiamyrtzis, P., and Hawkins, D. M. (2006) 'Bayesian Methods for Statistical Process Control', in *Bayesian Monitoring, Control and Optimization*, eds E. Del Castillo and B. Colosimo, Chapman and Hall, Boca Raton.
- 180 Hawkins, D. M., Choi, S. W., and Lee, S., (2007) 'A General Multivariate Exponentially Weighted Moving Average Control Chart', *Journal of Quality Technology*, 39, 118-125.
- 179 Hawkins, D. M., and Maboudou-Tchao, E. M., (2007) 'Self-Starting Multivariate Exponentially Weighted Moving Average Control Charting' *Technometrics*, 49, 199-209.
- 178 Hawkins, D. M., Basak, S. C., Kraker, J. J., Geiss, K., and Witzmann, F. A., (2006), 'Combining Chemodescriptors and Biodescriptors in Quantitative Structure-Activity Relationship Modeling', *Journal of Chemical Information and Modeling*, 46, 9-16.
- 177 Yi, J. J., Lilja D. J., and Hawkins, D. M., (2005), 'Improving Computer Architecture Simulation Methodology by Adding Statistical Rigor', *IEEE Transactions on Computers*, 54, No. 11, 1360-1373.
- 176 Hooper, E., Hawkins, D.M., Kowalski, R.J., Post, D.R., Britz, J.A., Brooks, K.C., and Turman, M. A., (2005), 'Establishing Pediatric Immune Response Zones Using the Cylex® ImmuKnow™ Assay', *Clinical Transplantation*, 19, 834-839.

- 175 Mahmoud, M. A., Parker, P. A., Woodall, W. H., and Hawkins, D. M., (2007), 'A Change Point Method for Linear Profile Data', *Quality and Reliability Engineering International*, 23, 247-268.
- 174 Jandhyala, V. K., Fotopoulos, S. B., and Hawkins, D. M., (2006), 'On the Inconsistency of the Change-Point Estimator for the NE Family', *Metrika*, 63, 1-7.
- 173 Tsiamyrtzis, P., and Hawkins, D. M., (2005), 'A Bayesian Scheme to Detect Changes in the Mean of a Short Run Process', *Technometrics*, 47, 446-456
- 172 Hawkins, D. M. and Zamba, K. D., (2005), 'Statistical Process Control for Shifts in Mean or Variance using a Change Point Formulation', *Technometrics*, 47, 164-173
- 171 Olive, D. J. and Hawkins, D. M., (2005), 'Variable Selection for 1D Regression Models', *Technometrics*, 47, 43-50.
- 170 Hawkins, D. M. and Zamba, K. D., (2005), 'A Change Point Model for a Shift in Variance', *Journal of Quality Technology*, 37, 21-31.
- 169 Liu, L., Hawkins, D. M., Ghosh, S., and Young, S. S., (2003), 'Robust Singular Value Decomposition Analysis of Microarray Data', *Proceedings of the National Academy of Sciences*, 100, 13167-13172.
- 168 Hawkins, D. M., Wolfinger, R. D., Liu, L., and Young, S. S., (2003), 'Exploring Blood Spectra for Signs of Ovarian Cancer', *Chance*, 16, 19-23.
- 167 Hawkins, D. M., (2004), 'The Problem of Overfitting', *Journal of Chemical Information and Computer Sciences*, 44, 1-12.
- 166 Hawkins, D. M., Basak, S. C., and Mills, D., (2004) 'Ridge Regression Fitting and Diagnostics in Quantitative Structure-Activity Relationship Modeling', *Environmental Toxicology and Pharmacology*, 16, 27 - 44
- 165 Hawkins, D. M., (2005) 'Outliers' *Encyclopedia of Biostatistics* 3908 - 3912, ed. P. Armitage and T. Colton, Wiley, New York.
- 164 Olive, D. J., and Hawkins, D. M., (2003), 'Robust Regression with High Coverage', *Statistics and Probability Letters*, 63, 259-266.
- 163 Hawkins, D. M., Qiu, P., and Kang, C.-W. (2003), 'The Changepoint Model for Statistical Process Control', *Journal of Quality Technology*, 35, 355-365.
- 162 Hawkins, D. M., and Zamba, K. D. (2003) 'On Small Shifts in Quality Control', *Quality Engineering*, 16, 143-149.
- 161 Yi J. J., Lilja, D. J., and Hawkins, D. M., (2003), 'A Statistically Rigorous Approach for Improving Simulation Methodology' *Proceedings of the Ninth Annual International Symposium on High-Performance Computer Architecture*, 281-291
- 160 Hawkins, D. M., Basak, S. C., and Mills, D., (2003), 'Assessing Model fit by Cross-validation', *Journal of Chemical Information and Computer Sciences*, 43, 579-586.
- 159 Qiu, P., and Hawkins, D. M. (2003) 'A Nonparametric Multivariate CUSUM Procedure for Detecting Shifts in All Directions' *Journal of the Royal Statistical Society, series D*, 52, 151 - 164.

- 158 Hawkins, D. M., (2003), Discussion of ‘A Review and Analysis of the Mahalanobis-Taguchi System’, *Technometrics* 45, 25 – 29.
- 157 Hawkins, D. M., Liu, L., and Young, S. S., (2001), *Robust Singular Value Decomposition* Technical Report 122, National Institute for Statistical Science
- 156 Hawkins, D. M. and Yin, X., (2002), ‘A Faster Algorithm for Ridge Regression of Reduced Rank Data’, *Computational Statistics and Data Analysis*, 40, 253–262.
- 155 Basak, S. C., Mills, D., Hawkins, D. M., and El-Masri, H. A., (2002), ‘Prediction of Tissue:air Partition Coefficients: A Comparison of Structure-based and Property-based Methods’, *SAR and QSAR in Environmental Research*, 13, 649-665.
- 154 Durbin, D., Hardin, J. S., Hawkins, D. M., and Rocke, D. M., (2002), ‘A Variance-Stabilizing Transformation for Gene-Expression Microarray Data’, *Bioinformatics*, 18 S105–S110.
- 153 Hawkins, D. M., and Musser, B. J. (2001), ‘Feature Selection with Nondeterministic Recursive Partitioning’, *Proceedings of the American Statistical Association* [CD-ROM] Alexandria, VA: ASA.
- 152 Jandhyala, V. K., Fotopoulos, S. B., and Hawkins D. M. (2002), ‘Detection and Estimation of Abrupt Changes in the Variability of a Process’, *Computational Statistics and Data Analysis*, 40, 1–19.
- 151 Basak, S. C., Hawkins, D. M. and Mills, D., (2002) ‘Estimation of Blood:Air Partition Coefficient of Chloroalkanes using QSPRS Based on theoretical Structural Descriptors’ *Croatica Chemica Acta*.
- 150 Hawkins, D. M. and Olive, D, J. (2002), ‘Inconsistency of High Breakdown Estimators for High Breakdown Regression Estimators and a New Algorithm’ (with discussion) *Journal of the American Statistical Association*. 97, 136 – 148, rejoinder 156 –159.
- 149 Hawkins, D. M., (2002) ‘Diagnostics for Conformity of Paired Quantitative Measurements’, *Statistics in Medicine*, 21, 1913–1935.
- 148 Beres, D. L. and Hawkins, D. M. (2001), ‘Plackett-Burman Technique for Sensitivity Analysis of Many-Parametered Models’, *Ecological Modelling*, 141, 171–183.
- 147 Hawkins, D. M., Basak, S. and Shi, X., (2001), ‘QSAR with Few Compounds and Many Features’, *Journal of Chemical Information and Computer Sciences*, 41, 663-670.
- 146 Hawkins, D. M., (2001) ‘Fitting Multiple Change-Points to Data’, *Computational Statistics and Data Analysis*, 37, 323-341.
- 145 Hawkins, D. M., (2001), ‘Multiple Multivariate Outliers – Models and Methods’ 2000 *Proceedings, American Statistical Association*, Biometrics Section, 9-11
- 144 Qiu, P. and Hawkins, D. M. (2001) ‘A Rank-Based Multivariate Cusum Procedure’, *Technometrics*. 43, 120-132.
- 143 Hawkins, D. M., Garrett, J. A. and Stephenson, B., (2001), ‘Some Issues in Resolution of Diagnostic Tests using an Imperfect Gold Standard’, *Statistics in Medicine*, 20, 1987-2001.

- 142 Stromberg, A. J., Hössjer, O., and Hawkins, D. M., (2000), 'The Least Trimmed Difference Regression Estimator and Alternatives', *Journal of the American Statistical Association*, 95, 853–864.
- 141 Smyth, G. K. and Hawkins, D. M., (2000) 'Robust Frequency Estimation using Elemental Sets', *Journal of Computational and Graphical Statistics*, 9, 196-211.
- 140 Olive, D. J. and Hawkins, D. M., (1999), Discussion of 'Regression depth', *Journal of the American Statistical Association*, 94, 416-417.
- 139 Hawkins, D. M., and Oehlert, G. W. (2000), 'Characterization using Normal or Log-Normal Data with Multiple Censoring Points', *Environmetrics*, 11, 167-181.
- 138 Hawkins, D. M., and Olive, D. J., (1999) 'Applications and Algorithms for Least Trimmed Sum of Absolute Deviations Regression', *Computational Statistics and Data Analysis*, 32, 119-134.
- 137 Hawkins, D. M. and Musser, B. J., (1999), 'One Tree or a Forest? Alternative Dendrographic Models', *Computing Science and Statistics*, 30, 534 – 542
- 136 Hawkins, D. M. and Olive, D. J. (1999), 'Improved Feasible Solution Algorithms for High Breakdown Estimation', *Computational Statistics and Data Analysis*, 30, 1-11.
- 135 Ames, A. E., and Hawkins, D. M., (1998), 'Empirical Optimization of Imaging Processes by Use of Designed Experiments and Quality Loss Functions', *Journal of Imaging Science and Technology*, 43, 166-169.
- 134 Young, S. S., and Hawkins, D. M., (1998), 'Using Recursive Partitioning to Analyze a Large SAR Data Set', *SAR and QSAR in Environmental Research*, 8, 183- 193.
- 133 Smyth, G. K., and Hawkins, D. M., (1997), 'Robust Frequency Estimation using Elemental Sets', *Computing Science and Statistics*, 28, 659-662.
- 132 Hawkins, D. M., and Olwell, D. H., (1997), 'Inverse Gaussian CUSUM Control Charts for Location and Shape', *The Statistician*, 46, 323-335.
- 131 Ames, A. E., Mattucci, N., MacDonald, S., Szonyi, G., and Hawkins, D. M., (1997), 'Quality Loss Functions for Optimization Across Multiple Response Surfaces', *Journal of Quality Technology*, 29, 339-346.
- 130 Cornelissen, G., Halberg, F., Hawkins, D., Otsuka, K., and Henke, W., (1997), 'Individual Assessment of Antihypertensive Response by Self-Starting Cumulative Sums', *Journal of Medical Engineering and Technology*, 21, 111-120.
- 129 Crowder, S. V., Hawkins, D. M., Reynolds, M. R., Jr., and Yashchin, E., (1997), 'Process Control and Statistical Inference', *Journal of Quality Technology*, 29, 134-139.
- 128 Hawkins, D. M., Young, S. S., and Rusinko, A., (1997), 'Analysis of a Large Structure-Activity Data Set using Recursive Partitioning', *Quantitative Structure Activity Relationships*, 16, 296-302.
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- 126 Roussanov, B., Hawkins, D. M., and Tatini, S. R., (1996), 'Estimating Bacterial Density from Tube Dilution Data by a Bayesian Method', *Food Microbiology*, 13, 341-363.

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- 118 Hawkins, D. M., Simonoff, J. S., and Stromberg, A., (1994), 'Distributing a Computationally Intensive Estimator: The Case of Exact LMS Regression', *Computational Statistics*, 9, 83-95.
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- 114 Hawkins, D. M., (1993), 'Regression Adjustment for Variables in Multivariate Quality Control', *Journal of Quality Technology*, 25, 170-182.
- 113 Hawkins, D. M., (1993), 'The Accuracy of Elemental Set Approximations for Regression', *Journal of the American Statistical Association*, 88, 580-589.
- 112 Hawkins, D. M., (1993), 'The Feasible Solution Algorithm for Least Trimmed Squares Regression', *Computational Statistics and Data Analysis*, 17, 185-196.
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- 110 Hawkins, D. M., and Simonoff, J. S., (1993), 'High Breakdown Regression and Multivariate Estimation', *Applied Statistics* 42, 423-432.
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- 107 Hawkins, D. M., and Bradu, D., (1993), 'Sample Size Requirements for Multiple Outlier Location Techniques Based on Elemental Sets', *Computational Statistics and Data Analysis*, 16, 257-270.
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- 105 Hawkins, D. M., (1993), 'The Feasible Set Algorithm for Least Median of Squares Regression', *Computational Statistics and Data Analysis*, 16, 81-101.
- 104 Tajima, A., Hawkins, D. M., and Deyo, R. C. M., (1992), 'The Effect of Glycerol Addition and Dilution on the Morphology of Frozen and Unfrozen Chicken Spermatozoa', *Cryo-Letters*, 13, 6-14.
- 103 Hawkins, D. M., (1992), 'A Fast Accurate Approximation for the Average Run Length of Cumulative Sum Control Charts', *Journal of Quality Technology*, 24, 37-43.
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- 101 Cook, R. D., Hawkins, D. M., and Weisberg, S., (1992), 'Comparison of Model Misspecification Diagnostics using Residuals from Least Mean of Squares and Least Median of Squares Fits', *Journal of the American Statistical Association*, 87, 419-428.
- 100 Hawkins, D. M., (1991), 'Multivariate Quality Control Based on Regression-Adjusted Variables', *Technometrics*, 33, 61-75.
- 99 Hawkins, D. M., (1991), 'MacRecur - Diagnostics for Use with Multiple Regression Recursive Residuals', Technical report Hawkins, D. M., 562, School of Statistics, University of Minnesota.
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