

DAVID M. ROCKE
Curriculum Vitae
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Division of Biostatistics
150 Med Sci 1-C
One Shields Ave
University of California
Davis, California 95616

Phone: (530) 752-6999
E-mail: dmrocke@ucdavis.edu
FAX: (530) 754-6793
Home Page: <http://dmrocke.ucdavis.edu>

EDUCATION

Ph.D., University of Illinois, Chicago (Mathematics)
Supplemental Coursework, University of Chicago (Statistics)
M.A., University of Illinois, Chicago (Mathematics)
A.B., Shimer College (Mathematics and Physics)

HONORS

National Merit Scholarship
Graduated "With Distinction" from Shimer College
National Science Foundation Graduate Fellowship
Fellow of the Royal Statistical Society
Youden Prize, Chemical Division, American Society for Quality Control
Award for Interlaboratory Testing, American Statistical Association
Shewell Award, Chemical and Process Industries Division, American Society for Quality Control
Fellow of the American Statistical Association
Statistics in Chemistry Award, American Statistical Association
Elected to Membership in the International Statistical Institute
Distinguished Service Award, Division of Molecular Orthopaedics, University of Pennsylvania
Fellow, American Association for the Advancement of Science

EMPLOYMENT

Distinguished Professor, Division of Biostatistics, Dept. of Public Health Sciences (Medicine), UC Davis, 2007–present, Professor 1997–2007.
Distinguished Professor, Department of Applied Science (Engineering), UC Davis, 2007–present, Professor 2000–2007.
Director, Bioinformatics Core, California National Primate Research Center, 2003–present.
Director, Biostatistics/Bioinformatics Core, Center for Pediatric Stem/Progenitor Cell Translational Research, UC Davis 2005–2010.
Member, UC Davis Genome Center, 2004–present.
Member, UC Davis Cancer Center, 1998–present.
Co-Director, Institute for Data Analysis and Visualization (formerly Center for Image Processing and Integrated Computing), UC Davis, 1996–2007.
Director, Center for Digital Security, UC Davis, 2001–2007.
Director, Center for Statistics in Science and Technology, UC Davis, 1995–99.
Professor Graduate School of Management, UC Davis, 1986–2000. Associate Professor, 1980–1986.
Academic Visitor, Department of Mathematics, Imperial College, London, 1987–1988.
University Professor of Business Administration, Governors State University, 1974–80.

RECENT GRANTS AND CONTRACTS

United States Department of Energy DE-FG02-07ER64341, 2006–2009, Genome Wide Evaluation of Normal Human Tissue in Response to Controlled, In vivo Low-Dose Low LET Ionizing Radiation Exposure: Pathways and Mechanisms, PI.

Air Force Office of Scientific Research FA9550-07-1-0146, 2007–2009, Molecular Mechanisms of Nonlinearity in Response to Low-Dose Ionizing Radiation, PI.

National Institutes of Health, National Human Genome Research Institute R01-HG003352, 2006–2008, Methods for Analysis of High-Throughput Assay Data, PI.

Air Force Office of Scientific Research FA9550-06-1-0132, 2005–2006, Molecular Mechanisms of Nonlinearity in Response to Low-Dose Ionizing Radiation, Co-PI, Zelanna Goldberg, PI.

National Institutes of Health, National Institute of Environmental Health Sciences P42-ES04699, 1988–2008, Statistical analysis of toxics measurement data, PI of Statistics Core, Bruce Hammock, PD.

Office of Statewide Health Planning and Development, State of California, 2004–2008, Analysis of Coronary Artery Bypass Graft Outcomes, Co-PI responsible for statistical analysis, Rich Kravitz, PI.

National Institutes of Health, 2003–2010, California National Primate Research Center Base Support Grant. Director of Bioinformatics Core, Dallas Hyde is Director of the Primate Center.

National Science Foundation, 2003–2008, A Rice Oligonucleotide Array And Identification Of Genes Expressed During The Rice Defense Response, Co-P responsible for managing the development of statistical methods and software for the rice genome array that the project is funding, Pamela Ronald, PI.

Air Force Office of Scientific Research, 2001–07, Center for Digital Security, PI with two Co-PIs.

MEMBERSHIP IN PROFESSIONAL SOCIETIES

American Association for the Advancement of Science (Fellow)

American Association for Cancer Research

American Mathematical Society

American Society of Biochemistry and Molecular Biology

American Statistical Association (Fellow)

Bernoulli Society

Biometric Society

Institute of Mathematical Statistics

International Association for Statistical Computing

International Society for Computational Biology

International Statistical Institute

Radiation Research Society

Royal Statistical Society (Fellow)

PROFESSIONAL SOCIETY OFFICES AND COMMITTEES

International Society for Computational Biology

- Treasurer 2002–08
- Board of Directors 2002–2010
- Finance Committee
- Conferences Committee
- Publications Committee

American Statistical Association

- Noether Award Committee 2003–2008

EDITORIAL WORK

- Associate Editor, *Journal of the American Statistical Association, Theory and Methods*, 2005–2011
Associate Editor, *Bioinformatics*, 2005–
Member, Editorial Board, *BMC Bioinformatics*, 2005–2008
Member, Editorial Board, *Journal of Bioinformatics—Theory and Applications*, 2005–
Member, Editorial Board, *Molecular and Cellular Proteomics*, 2005–2010
Associate Editor, *Metrika*, 1998–
Associate Editor, *Biometrics*, 1997–2000
Associate Editor, *Journal of Business and Economic Statistics*, 1986–1995
Reviewer for: *American Journal of Political Science, Annals of Statistics, Applied Statistics, Australian Journal of Statistics, Bioinformatics, Biometrics, Biometrika, BIT, Canadian Journal of Statistics, Communications in Statistics, Computational Statistics and Data Analysis, International Studies Quarterly, Irwin, John Wiley, Journal of Applied Statistical Science, Journal of Computational Biology, Journal of Conflict Resolution, Journal of Immunological Methods, Journal of Forecasting, Journal of Multivariate Analysis, Journal of Nonparametric Statistics, Journal of Quality Technology, Journal of Statistical Computation and Simulation, Journal of Statistical Planning and Inference, Journal of the American Statistical Association, Journal of the Royal Statistical Society B, National Science Foundation, Naval Research Logistics, SIAM Journal on Scientific and Statistical Computing, The Statistician, Technometrics, University of Michigan Press, West, World Politics.*

BOOKS

- 1995 George W. Downs and David M. Roche, *Optimal Imperfection? Domestic Uncertainty and Institutions in International Relations*, Princeton: Princeton University Press.
1990 George W. Downs and David M. Roche, *Tacit Bargaining, Arms Races, and Arms Control*, Ann Arbor: University of Michigan Press.

ARTICLES AND PAPERS

- 2007 Susanne R. Berglund, Alison Santana, Dan Li, David Roche, and Zelanna Goldberg, “Proteomic Analysis of Low Dose Arsenic and Ionizing Radiation Exposure on Keratinocytes,” submitted for publication.
2007 Jingjing Ye, Hao Liu, Crystal Kirmiz, Carlito B. Lebrilla, and David M. Roche, “On the Analysis of Glycomics Mass Spectrometry Data via the Regularized Area under the ROC Curve,” *BMC Bioinformatics*, in press.
2007 Susanne R. Berglund, David M. Roche, Jian Dai, Chad W. Schwietert, Alison Santana, Robin L. Stern, Joerg Lehmann, Christine L. Hartmann Siantar, and Zelanna Goldberg, “Transient Genome-Wide Transcriptional Response to Low-Dose Ionizing Radiation In-Vivo in Humans,” *International Journal of Radiation Oncology, Biology, Physics*, in press.
2007 James P. Marcin, Zhongmin Li, Richard L. Kravitz, Jian J. Dai, David M. Roche, and Patrick S. Romano, “The CABG Surgery Volume-Outcome Relationship: Temporal Trends and Selection Effects in California, 1998-2004,” *Health Services Research*, in press.
2007 Blythe A. Corbett, Aaron B. Kantor, Howard Shulman, Wynn L. Walker, Lisa Lit, Paul Ashwood, David M. Roche, and Frank R. Sharp, “A Proteomic Study of Serum from Children with Autism Showing Differential Expression of Apolipoproteins and Complement Proteins,” *Molecular Psychiatry*, **12**, 292–306.
2006 J Bruce German, Floyd L Schanbacher, Bo Lönnerdal, Juan F Medrano, Mark A McGuire, James L McManaman, David M Roche, Timothy P Smith, Margaret C Neville, Paul Donnelly, Matthew Lange, and Robert Ward, “International Milk Genome Consortium,” *Trends in Food Science and Technology*, **17**, 656–661.
2006 Miguel A. Rea, Lei Zhou, Qin Qin, Yann Barrandon, Karen Easley, Sarah Gungner, Marjorie A. Phillips, William S. Holland, Paul H. Gumerlock, David M Roche, and Robert H. Rice,

- “Spontaneous Immortalization of Human Epidermal cells with Naturally Elevated Telomerase,” *Journal of Investigative Dermatology*, **126**, 2507–2515.
- 2006 Hyun Joo An, John S. Tillinghast, David L. Woodruff, David M. Rocke, and Carlito B. Lebrilla, “A New Computer Program (GlycoX) to determine simultaneously the Glycosylation Sites and Oligosaccharide Heterogeneity of Glycoproteins,” *Journal of Proteome Research*, **5**, 2800–2808.
- 2006 Zelanna Goldberg, David M. Rocke, Chad Schwietert, Susanne R. Berglund, Alison Santana, Angela Jones, Jörg Lehmann, Robin Stern, Ruixiao Lu, and Christine Hartmann Siantar, “Human In Vivo Dose Response to Controlled, Low-Dose Low LET Ionizing Radiation Exposure,” *Clinical Cancer Research*, **12**, 3723–3729.
- 2006 Jian J. Dai, Linh H. Lieu, and David M. Rocke, “Dimension Reduction for Classification with Gene Expression Microarray Data,” *Statistical Applications in Genetics and Molecular Biology*, **5**(1), Article 6.
- 2006 Joerg Lehmann, Robin L. Stern, Thomas P. Daly, David M. Rocke, Chad W. Schwietert, Gregory E. Jones, Michelle L. Arnold, Christine L. Hartmann-Siantar, and Zelanna Goldberg, “Dosimetry for quantitative analysis of the effects of low-dose ionizing radiation in radiation therapy patients,” *Radiation Research*, **165**, 240–247.
- 2005 Joseph A. Kitterman, Sharon Kantanie, David M. Rocke, and Frederick S. Kaplan, “Iatrogenic Harm Caused By Diagnostic Errors In Fibrodysplasia Ossificans Progressiva,” *Pediatrics*, **116**, E654–E661.
- 2005 Lei Zhou and David M. Rocke, “An Expression Index for Affymetrix GeneChips Based on the Generalized Logarithm,” *Bioinformatics*, **21**, 3983–3989.
- 2005 David M. Rocke, Zelanna Goldberg, Chad Schwietert, and Alison Santana, “A Method for Detection of Differential Gene Expression in the Presence of Inter-Individual Variability in Response,” *Bioinformatics*, **21**, 3990–3992.
- 2005 Johanna Hardin and David M. Rocke, “The Distribution of Robust Distances,” *Journal of Computational and Graphical Statistics*, **14**, 928–946.
- 2005 Kristina Abel, David M. Rocke, Barinderpal Chohan, Linda Fritts, and Christopher J. Miller, “The Temporal and Anatomic Relationship between Virus Replication and Cytokine Gene Expression After Vaginal Simian Immunodeficiency Virus Infection,” *Journal of Virology*, **79**, 12164–12172.
- 2005 Shagugta Aslam and David M. Rocke, “A Robust Testing Procedure for the Equality of Covariance Matrices,” *Computational Statistics and Data Analysis*, **49**, 864–874.
- 2004 David M. Rocke, “Design and Analysis of Experiments with High Throughput Biological Assay Data,” *Seminars in Cell and Developmental Biology*, **15**, 708–713.
- 2004 Parul Purohit, David M. Rocke, Mark R. Viant, and David L. Woodruff, “Discrimination Models using Variance-Stabilizing Transformation of Metabolomic NMR Data,” *Omics*, **8**, 118–130.
- 2004 Richard F. Scarlett, David M. Rocke, Sharon Kantanie, Jean Patel, Eileen M. Shore, and Frederick S. Kaplan, “Influenza-like Viral Illnesses and Flare-ups of Fibrodysplasia Ossificans Progressiva,” *Clinical Orthopaedics and Related Research*, **423**, 275–279.
- 2004 Danh Nguyen and David M. Rocke, “On Partial Least Squares Dimension Reduction for Microarray-Based Classification: A Simulation Study,” *Computational Statistics and Data Analysis*, **46**, 407–425.
- 2004 Mabelle D. Wilson, Susan L. Ustin, and David M. Rocke, “Classification of Contamination in Salt Marsh Plants Using Hyperspectral Data,” *IEEE Transactions on Geoscience and Remote Sensing*, **42**, 1088–1095.
- 2004 Blythe Durbin and David M. Rocke, “Variance-Stabilizing Transformations for Two-Color Microarrays,” *Bioinformatics*, **20**, 660–667.
- 2004 Mabelle Wilson, David M. Rocke, Blythe Durbin, and Henry Kahn, “Detection limits and goodness-of-fit measures for the two-component model of chemical analytical error,” *Analytica Chimica Acta*, **509**, 197–208.

- 2004 Jian Dai, Stefan Lorenzato, and David M. Rocke, “A Knowledge-Based Model for Watershed Assessment for Sediment” *Environmental Modelling and Software*, **19**, 423–433.
- 2004 Johanna Hardin and David M. Rocke, “Outlier Detection in the Multiple Cluster Setting using the Minimum Covariance Determinant Estimator,” *Computational Statistics and Data Analysis*, **44**, 625–638.
- 2003 Sue Geller, Jeff Gregg, Paul Hagerman, and David M. Rocke, “Transformation and Normalization of Oligonucleotide Microarray Data,” *Bioinformatics*, **19**, 1817–1823.
- 2003 Parul V. Purohit and David M. Rocke, “Discriminant Models for High-Throughput Proteomics Mass Spectrometer Data,” *Proteomics*, **3**, 1699–1703.
- 2003 David M. Rocke and Blythe P. Durbin, “Approximate Variance-Stabilizing Transformations for Gene-Expression Microarray Data,” *Bioinformatics*, **19**, 966–972.
- 2003 Blythe Durbin and David M. Rocke, “Estimation of Transformation Parameters for Microarray Data,” *Bioinformatics*, **19**, 1360–1367.
- 2003 David M. Rocke, Blythe Durbin, Machel Wilson, and Henry Kahn, “Modeling Uncertainty in Analytical Measurements for Analysis of Bioavailability,” *Ecotoxicology and Environmental Safety*, **56**, 78–92.
- 2003 Joseph A. Caruso, Björn Klaue, Bernhard Michalke, and David M. Rocke, “Methodologies for Assessing Exposure to Metals, Group Assessment: Elemental Speciation,” *Ecotoxicology and Environmental Safety*, **56**, 32–44.
- 2003 David M. Rocke and Jian Dai, “Sampling and Subsampling for Cluster Analysis in Data Mining, with Applications to Sky Survey Data,” *Data Mining and Knowledge Discovery*, **7**, 215–232.
- 2002 Yihua Zhao, Benjamin P.C. Chen, Hui Miao, Suli Yuan, Yi-Shuan Li, Yingli Hu, David M. Rocke, and Shu Chien, “Improved Significance Test for DNA Microarray Data: Temporal Effects of Shear Stress on Endothelial Genes,” *Physiological Genomics*, **12**, 1–11.
- 2002 Danh Nguyen and David M. Rocke, “Partial Least Squares Proportional Hazard Regression for Application to DNA Microarray Survival Data,” *Bioinformatics*, **18**, 1625–1632.
- 2002 David M. Rocke and David L. Woodruff, “Computational Connections Between Robust Multivariate Analysis and Clustering,” in *COMPSTAT 2002 Proceedings in Computational Statistics*, Wolfgang Härdle and Bernd Rönz eds., 255–260, Heidelberg: Physica-Verlag.
- 2002 Danh Nguyen and David M. Rocke, “Multi-Class Cancer Classification via Partial Least Squares with Gene Expression Profiles,” *Bioinformatics*, **18**, 1216–1226.
- 2002 Blythe Durbin, Johanna Hardin, Douglas Hawkins, and David M. Rocke, “A Variance-Stabilizing Transformation for Gene-Expression Microarray Data,” *Bioinformatics*, **18**, S105–S110.
- 2002 Sue Geller, Lei Zhou, Jeff Gregg, Paul Hagerman, and David M. Rocke, “Measurement Error and Reproducibility of Affymetrix Microarray Data with Application to Autism,” (extended abstract), in *Currents in Computational Molecular Biology 2002*, Liliana Florea, Brian Walenz, and Sridhar Hannenhalli, eds., 68–69, RECOMB 2002.
- 2002 Blythe Durbin, Johanna Hardin, Douglas Hawkins, and David M. Rocke, “A Variance-Stabilizing Transformation for Microarray Data,” (extended abstract), in *Currents in Computational Molecular Biology 2002*, Liliana Florea, Brian Walenz, and Sridhar Hannenhalli, eds., 51–52, RECOMB 2002.
- 2002 Danh Nguyen and David M. Rocke, “Classification of Acute Leukemia Based on DNA Microarray Gene Expressions Using Partial Least Squares,” in *Methods of Microarray Data Analysis*, S. M. Lin and K. F. Johnson, eds., 109–124, Boston: Kluwer Academic.
- 2002 Geoffrey Jones and David M. Rocke “Multivariate Survival Analysis with Doubly-Censored Data: Application to the Assessment of Accutane Treatment for Fibrodysplasia Ossificans Progressiva,” *Statistics in Medicine*, **21**, 2547–2562.
- 2002 Danh Nguyen and David M. Rocke, “Tumor Classification by Partial Least Squares using Microarray Gene Expression Data,” *Bioinformatics*, **18**, 39–50.

- 2001 Danh V. Nguyen and David M. Rocke, "Assessing Patient Survival Using Microarray Gene Expression Data via Partial Least Squares Proportional Hazard Regression." *Computing Science and Statistics*, **33**, 376–389.
- 2001 David M. Rocke and Blythe Durbin, "A Model for Measurement Errors for Gene Expression Arrays," *Journal of Computational Biology*, **8**, 557–569.
- 2001 David M. Rocke and David L. Woodruff "Discussion of `Multivariate Outlier Detection and Robust Covariance Matrix Estimation,'" *Technometrics*, **43**, 300–303.
- 2001 Geoffrey Jones and David M. Rocke, "Analyte Identification in Multivariate Calibration," *Biometrics*, **57**, 571–576.
- 2000 Jian Dai and David M. Rocke, "A GIS-Based Approach to Spatial Allocation of Area Source Solvent Emissions," *Environmental Modelling and Software*, **15**, 293–302.
- 2000 Jian Dai and David M. Rocke, "Modeling Spatial Variation in Area Source Emissions—A Poisson Regression Approach," *Journal of Agricultural, Biological and Environmental Statistics*, **5**, 7–21.
- 2000 Bruce N. Leistikow, Daniel C. Martin, Jeffrey Jacobs, David M. Rocke, and Kyle Noderer, "Smoking as a Risk Factor for Accident Death: A Meta-analysis of Cohort Studies," *Accident Analysis and Prevention*, **32**, 397–405.
- 1999 Dan Coleman Xiaopeng Dong, Johanna Hardin, David M. Rocke, and David L. Woodruff, "Some Computational Issues in Cluster Analysis with No A Priori Metric," *Computational Statistics and Data Analysis*, **31**, 1–12.
- 1999 Geoffrey Jones and David M. Rocke "Bootstrapping in Controlled Calibration Experiments," *Technometrics*, **41**, 224–233.
- 1999 Bruce N. Leistikow, Daniel C. Martin, Jeffrey Jacobs, and David M. Rocke, "Smoking as a Risk Factor for Injury Death: A Meta-analysis of Cohort Studies," *Preventive Medicine*, **27**, 871–878.
- 1998 David M. Rocke, "Constructive Statistics: Estimators, Algorithms, and Asymptotics," *Computing Science and Statistics*, **30**, 3–14.
- 1998 Kelli Hoover, Susan A. Alaniz, Julie L. Yee, David M. Rocke, Bruce D. Hammock, and Sean S. Duffey, "Dietary Protein and Chlorogenic Acid Effect on Baculoviral Disease of Noctuid (Lepidoptera: Noctuidae) Larvae," *Environmental Entomology*, **27**, 1264–1272.
- 1998 George W. Downs, David M. Rocke, and Peter N. Barsoom, "Managing the Evolution of Multilateralism," *International Organization*, **52**, 397–419.
- 1998 David M. Rocke, "A Perspective on Statistical Tools for Data Mining Applications," *Proceedings of the Second International Conference on Practical Application of Knowledge Discovery and Data Mining*, 313–318.
- 1998 Kelli Hoover, Julie L. Yee, Christine M. Schultz, David M. Rocke, Bruce D. Hammock, and Sean S. Duffey, "Effects of Plant Identity and Chemical Constituents on the Efficacy of a Baculovirus Against *Heliothis virescens*," *Journal of Chemical Ecology*, **24**, 221–252.
- 1998 Frederick S. Kaplan, Jeffrey R. Sawyer, Susan Connors, Karen Keough, Eileen Shore, Francis Gannon, David Glaser, David M. Rocke, Michael A. Zasloff, and Judah Folkman, "Urinary Basic Fibroblast Growth Factor: A Biochemical Marker for Preosseous Fibroproliferative Lesions in Patients Who Have Fibrodysplasia Ossificans Progressiva," *Clinical Orthopaedics and Related Research*, **346**, 59–65
- 1998 David L. Glaser, David M. Rocke, and Frederick S. Kaplan, "Catastrophic Falls in Patients Who Have Fibrodysplasia Ossificans Progressiva," *Clinical Orthopaedics and Related Research*, **346**, 110–116.
- 1998 Michael A. Zasloff, David M. Rocke, Leslie J. Crofford, Gregory V. Hahn, and Frederick S. Kaplan, "Treatment of Patients Who Have Fibrodysplasia Ossificans Progressiva with 13-cis-Retinoic Acid (Isotretinoin)," *Clinical Orthopaedics and Related Research*, **346**, 121–129.
- 1998 Jeffrey R. Sawyer, John J. Klimkeiwicz, Joseph P. Iannotti, and David M. Rocke., "Mechanism for Superior Subluxation of the Glenohumeral Joint in Patients Who Have Fibrodysplasia Ossificans Progressiva," *Clinical Orthopaedics and Related Research*, **346**, 130–133.

- 1998 David M. Rocke, "Laboratory Quality Control," in *Encyclopedia of Biostatistics*, New York: John Wiley.
- 1997 David M. Rocke and Geoffrey Jones, "Optimal Design for ELISA and other forms of Immunoassay," *Technometrics*, **39**, 162–170.
- 1997 David M. Rocke and David L. Woodruff, "Robust Estimation of Multivariate Location and Shape," *Journal of Statistical Planning and Inference*, **57**, 245–255.
- 1997 Geoffrey Jones, Monika Wortberg, David M. Rocke, and Bruce D. Hammock, "Immunoassay of Cross-Reacting Analytes," in *Immunochemical Technology for Environmental Applications*, D. S. Aga and E. M. Thurman, eds., ACS Symposium Series No. 657, 331–342, Washington, D.C.: American Chemical Society Publications.
- 1996 Geoffrey Jones, Monika Wortberg, Bruce D. Hammock, and David M. Rocke, "A Procedure for the Immunoanalysis of Samples Containing One or More Members of a Group of Cross-Reacting Analytes," *Analytica Chimica Acta*, **336**, 175–183.
- 1996 David M. Rocke and David L. Woodruff, "Identification of Outliers in Multivariate Data," *Journal of the American Statistical Association*, **91**, 1047–1061.
- 1996 David M. Rocke, "Robustness Properties of *S*-Estimators of Multivariate Location and Shape in High Dimension," *Annals of Statistics*, **24**, 1327–1345.
- 1996 George W. Downs, David M. Rocke, and Peter N. Barsoom, "Is the Good News about Compliance Good News for Cooperation?" *International Organization*, **50**, 379–406, reprinted in *International Institutions* Lisa A Martin and Beth A Simmons, eds., 2001, Cambridge:MIT Press.
- 1996 Geoffrey Jones, Monika Wortberg, Sabine B. Kreissig, Bruce D. Hammock, and David M. Rocke, "On the Application of the Bootstrap to Calibration Experiments," *Analytical Chemistry*, **68**, 763–770.
- 1996 Monika Wortberg, Geoffrey Jones, Sabine B. Kreissig, David M. Rocke, and Bruce D. Hammock, "An Approach to the Construction of an Immunoarray for Differentiating and Quantitating Cross Reacting Analytes," *Analytica Chimica Acta*, **319**, 291–303.
- 1996 Wayne Luchetti, Randolph B. Cohen, Gregory V. Hahn, David M. Rocke, Mark Helpin, Michael A. Zasloff, and Frederick S. Kaplan, "Severe Restriction in Jaw Movement Following Routine Injection of Local Anesthetic in Patients who have Fibrodysplasia Ossificans Progressiva," *Oral Surgery, Oral Medicine, Oral Pathology, Oral Radiology, and Endodontics*, **81**, 21–25.
- 1995 Geoffrey Jones, Monika Wortberg, Sabine B. Kreissig, Bruce D. Hammock, and David M. Rocke, "Sources of Experimental Variation in Calibration Curves for Enzyme-Linked Immunosorbent Assay," *Analytica Chimica Acta*, **313**, 197–207.
- 1995 David M. Rocke and Michelle Pallas "Prediction of Automotive Emissions from Gasoline Composition," *Proceedings of the 1994 Spring Research Conference on Statistics in Industry and Technology*, American Statistical Association.
- 1995 David M. Rocke, "Optimal Design of Quantitative Immunoassay Protocols," in *New Frontiers in Agrochemical Immunoassay*, David Kurtz, ed., Washington, DC: Association of Official Analytical Chemists, 251–259.
- 1995 Thomas F. Lanchoney, Randolph B. Cohen, David M. Rocke, Michael A. Zasloff, and Frederick S. Kaplan, "Permanent Heterotopic Ossification at the Injection Site Following Routine Diphtheria-Tetanus-Pertussis Immunizations in Children who have Fibrodysplasia Ossificans Progressiva," *Journal of Pediatrics*, **126**, 762–764.
- 1995 David M. Rocke and Stefan Lorenzato, "A Two-Component Model for Measurement Error in Analytical Chemistry," *Technometrics*, **37**, 176–184.
- 1995 Monika Wortberg, Sabine B. Kreissig, Geoffrey Jones, David M. Rocke, and Bruce D. Hammock, "An Immunoarray for the Simultaneous Determination of Multiple Triazine Herbicides," *Analytica Chimica Acta*, **304**, 339–352.
- 1995 Lawrence M. Kauvar, Deborah L. Higgins, Hugo O. Villar, J. Richard Sportsman, Åsa Engqvist-Goldstein, Robert Bukar, Karin E. Bauer, H. Dilley and David M. Rocke, "Predicting Ligand Binding to Proteins by Affinity Fingerprinting," *Chemistry and Biology*, **2**, 107–118.

- 1994 David M. Rocke and David L. Woodruff, "Multivariate Outlier Detection," in *Proceedings of the 26th Symposium on the Interface: Computing Science and Statistics*, 392–400.
- 1994 Geoffrey Jones, Monica Wortberg, Sabine B. Kreissig, David S. Bunch, Shirley Gee, Bruce Hammock, and David M. Rocke, "Extension of the Four-Parameter Logistic Model for ELISA to Multianalyte Analysis," *Journal of Immunological Methods*, **177**, 1–7.
- 1994 David L. Woodruff and David M. Rocke, "Computable Robust Estimation of Multivariate Location and Shape using Compound Estimators," *Journal of the American Statistical Association*, **89**, 888–896.
- 1994 George W. Downs and David M. Rocke, "Conflict, Agency, and Gambling for Resurrection: The Principal-Agent Problem Goes to War" *American Journal of Political Science*, **38**, 362–80.
- 1994 David M. Rocke, Michael Zasloff, Jeannie Peeper, Randolph Cohen, and Frederick S. Kaplan, "Age- and Joint-Specific Risk of Initial Heterotopic Ossification in Patients who have Fibrodysplasia Ossificans Progressiva," *Clinical Orthopaedics and Related Research*, **301**, 243–248.
- 1993 David Woodruff and David M. Rocke, "Heuristic Search Algorithms for the Minimum Volume Ellipsoid," *Journal of Computational and Graphical Statistics*, **2**, 69–95.
- 1993 David M. Rocke, "Almost-Exact Parametric Bootstrap Calculation via the Saddle-Point Approximation," *Computational Statistics and Data Analysis*, **15**, 451–460.
- 1993 David M. Rocke and David L. Woodruff, "Computation of Robust Estimates of Multivariate Location and Shape," *Statistica Neerlandica*, **47**, 27–42.
- 1993 David M. Rocke, "On the Beta Transformation Family," *Technometrics*, **35**, 72–81.
- 1992 David M. Rocke and David L. Woodruff, "Computation of High-Breakdown Estimates of Multivariate Location and Shape," *Proceedings of the ASA Statistical Computing Section*, 34–39.
- 1992 David M. Rocke, " \bar{X}_Q and R_Q Charts: Robust Control Charts," *The Statistician*, **41**, 97–104.
- 1992 David M. Rocke, "Estimation of Variation after Outlier Rejection," *Computational Statistics and Data Analysis*, **13**, 9–20.
- 1991 David M. Rocke, "Robustness and Balance in the Mixed Model," *Biometrics*, **47**, 303–309.
- 1990 David S. Bunch, David M. Rocke, and Robert O. Harrison, "Statistical Design of ELISA Protocols," *Journal of Immunological Methods*, **132**, 247–254.
- 1990 David M. Rocke, "The Adjusted p-Chart and u-Chart for Varying Sample Sizes," *Journal of Quality Technology*, **22**, 206–209.
- 1990 Rudolph Grübel and David M. Rocke, "On the Cumulants of Affine Equivariant Estimators in Elliptical Families," *Journal of Multivariate Analysis*, **35**, 203–222.
- 1989 David M. Rocke, "Robust Control Charts," *Technometrics*, **31**, 173–184.
- 1989 David M. Rocke, "Bootstrap Bartlett Adjustment for Seemingly Unrelated Regression," *Journal of the American Statistical Association*, **84**, 598–601.
- 1987 Richard Green, David M. Rocke, and William Hahn, "Standard Errors for Elasticities: A Comparison of Bootstrap and Asymptotic Standard Errors," *Journal of Business and Economic Statistics*, **5**, 145–149.
- 1986 George W. Downs and David M. Rocke, "Tacit Bargaining and Arms Control," (1987) *World Politics*, **39**, 297–325.
- 1986 David M. Rocke and David F. Shanno, "The Scale Problem in Robust Regression M-Estimates," *Journal of Statistical Computation and Simulation*, 1986, **24**, 47–69.
- 1986 David M. Rocke, "Outlier Resistance in Small Samples," *Biometrika*, **73**, 175–181.
- 1986 David F. Shanno and David M. Rocke, "Numerical Methods for Robust Regression: Linear Models," *SIAM Journal on Scientific and Statistical Computing*, **7**, 86–97.
- 1985 George W. Downs, David M. Rocke, and Randolph Siverson, "Arms Races and Cooperation," *World Politics*, **38**, 118–146, reprinted in *Cooperation under Anarchy*, Princeton University Press.
- 1984 David M. Rocke, "On Testing for Bioequivalence," *Biometrics*, **40**, 225–230.

- 1984 George W. Downs and David M. Roche, "Theories of Budgetary Decisionmaking and Revenue Decline," *Policy Sciences*, **16**, 329–347.
- 1983 George W. Downs and David M. Roche, "Municipal Budget Forecasting with Multivariate ARMA Models," *Journal of Forecasting*, **2**, 377–387.
- 1983 George W. Downs and David M. Roche, "Designed Experiments for Classification Problems," *Journal of the Operational Research Society*, **34**, 1069–1077.
- 1983 George W. Downs and David M. Roche, "Multivariate ARIMA Models and Municipal Finance," in *Applied Time Series Analysis of Economic Data*, ed. Arnold Zellner, Bureau of the Census.
- 1983 David M. Roche, "Robust Statistical Analysis of Interlaboratory Studies," *Biometrika*, **70**, 421–431.
- 1982 David M. Roche, "Inference for Response-Limited Time Series Models," *Communications in Statistics*, **A11**, 2587–2596.
- 1982 David M. Roche, George W. Downs and Alan J. Roche "Are Robust Estimators Really Necessary?" *Technometrics*, **24**, 95–102.
- 1982 George W. Downs and David M. Roche, "Ceteris Paribus Revisited," *Political Methodology*, 43–54.
- 1981 David M. Roche and George W. Downs, "Estimating the Variance of Estimators of Location: Influence, Curve, Jackknife and Bootstrap," *Communications in Statistics*, **B10**, 221–248.
- 1980 George W. Downs and David M. Roche, "Complexity, Interaction and Policy Research," *Policy Sciences*, **13**, 281–295.
- 1980 George W. Downs and David M. Roche, "Bureaucracy and Juvenile Corrections," in *Determinants of Public Policy*, Thomas Dye and Virginia Gray, eds., Lexington MA: Heath-Lexington.
- 1980 David M. Roche and George W. Downs, "Time Series with Episodic Disruptions" in *Analysing Time Series*, ed. O.D. Anderson, New York: North-Holland.
- 1979 George W. Downs and David M. Roche, "Interpreting Heteroscedasticity," *American Journal of Political Science*, **23**, 816–828.
- 1975 David M. Roche, "p-Groups with Abelian Centralizers," *Proceedings of the London Mathematical Society*, **3**, **30**, 55–75.

BOOK REVIEWS

- Genetic Algorithms + Data Structures = Evolution Programs (3rd Edition)*, by Zbigniew Michalewicz, *Journal of the American Statistical Association*, 2000, **95**, 347–348.
- Directions in Robust Statistics and Diagnostics, Parts I and II*, edited by Werner Stahel and Sanford Weisberg, *Journal of the American Statistical Association*, 1993, **88**, 710–711.
- Robust Estimation and Testing*, by Robert G. Staudte and Simon J. Sheather, *International Statistical Institute Short Book Reviews*, 1991, **11**, 6.
- Mixture Models: Inference and Application to Clustering*, by G. J. McLachlan and K. E. Basford, *International Statistical Institute Short Book Reviews*, 1988, **8**, 26.
- Analysis of Experiments with Missing Data*, by Yadolah Dodge, *Technometrics*, 1987, **29**, 116.
- Robust Inference*, by M. L. Tiku, W. Y. Tan, N. Balakrishnan, *Technometrics*, 1987, **29**, 495–496.

INVITED PRESENTATIONS

- 2007 David M. Roche, "Pre-Processing Spectroscopic Data for Omics Analysis," Invited Presentation, International Statistical Institute, Lisbon, Portugal, August.
- 2007 David M. Roche, "Statistical Methods for Identification of Differentially Expressed Gene Groups and Pathways," Invited Presentation, Almac Diagnostics, Craigavon, Northern Ireland, May.
- 2007 David M. Roche, "Classification and Prediction using Gene Expression Microarray Data," Invited Presentation, Almac Diagnostics, Craigavon, Northern Ireland, May.

- 2006 David M. Rocke, "Statistical Methods for Identification of Differentially Expressed Gene Groups and Pathways," Invited Presentation, Dalhousie University, Halifax, Nova Scotia, Canada, October.
- 2006 David M. Rocke, "Statistical Methods for Identification of Differentially Expressed Gene Groups and Pathways," Invited Presentation, Yale University, September.
- 2006 David M. Rocke, "Statistical Methods for Identification of Differentially Expressed Gene Groups and Pathways," Invited Presentation, Workshop on Computational and Statistical Genomics, Banff, Canada, July.
- 2006 David M. Rocke, "Statistical and Bioinformatic Methods for Metabolomics," Invited Presentation, From Microorganisms to Humans: Environment Genome Interactions, Technische Universität München, Munich, Germany, April.
- 2006 David M. Rocke, "Classification and Prediction using Gene Expression Microarray Data," Invited Presentation, Workshop on Statistical Analysis of Genetic and Gene Expression Data, Pavia, Italy, March.
- 2006 David M. Rocke, "Some Robust and Resistent Methods for Identification of Differentially Expressed Gene Groups and Pathways," Invited Presentation, Workshop on Robust Classification and Discrimination with High Dimensional Data, Florence, Italy, January.
- 2005 David M. Rocke, "Variability and Data Transformation for Gene Expression, Proteomics, and Metabolomics Data," Invited Presentation, UC San Francisco, November.
- 2005 David M. Rocke, "Some Principles for the Design and Analysis of Experiments using Gene Expression Arrays and Other High-Throughput Assay Methods," Invited Presentation, Millenium Pharmaceuticals, Cambridge, MA, May.
- 2005 David M. Rocke, "Some Principles for the Design and Analysis of Experiments using Gene Expression Arrays and Other High-Throughput Assay Methods," Invited Presentation, Michigan State University, Lansing, MI, February.
- 2004 David M. Rocke, "Some Principles for the Design and Analysis of Experiments using Gene Expression Arrays and Other High-Throughput Assay Methods," Invited Presentation, International Symposium on the Milk Genome and Human Health, Napa, CA, November.
- 2004 David M. Rocke, "Variability and Data Transformation for Gene Expression, Proteomics, and Metabolomics Data," Invited Presentation, GlaxoSmithKline, Oaks, PA, November.
- 2004 David M. Rocke, "Variability and Data Transformation for Gene Expression, Proteomics, and Metabolomics Data," Invited Presentation, Bauer Center for Genomics Research, Harvard University, Cambridge, MA, September.
- 2004 David M. Rocke, "Some Principles for the Design and Analysis of Experiments using Gene Expression Arrays and Other High-Throughput Assay Methods," Invited Presentation, Whitehead Institute, Cambridge, MA, September.
- 2004 David M. Rocke, "Variability and Data Transformation for Gene Expression, Proteomics, and Metabolomics Data," Invited Presentation, Statistical Science for Genome Biology, Banff International Research Station, Banff, Canada, August.
- 2004 David M. Rocke, "Heterogeneity of Variance in Gene Expression Microarray Data," Invited Presentation, Joint Statistics Meeting, Toronto, Canada, August.
- 2004 David M. Rocke, "Some Principles for the Design and Analysis of Experiments using Gene Expression Arrays and Other High-Throughput Assay Methods," Invited Presentation, Iowa State University, Ames, IA, July.
- 2004 David M. Rocke, "Measurement Errors and Data Transformation for Gene Expression Data," Invited Presentation, Infocast Microarray Data Analysis Conference, Rockville, MD, June.
- 2004 David M. Rocke, "Variability and Data Transformation for Gene Expression, Proteomics, and Metabolomics Data," Invited Presentation, The Cleveland Clinic, Cleveland, OH, May.
- 2004 David M. Rocke, "Variability and Data Transformation for Gene Expression, Proteomics, and Metabolomics Data," Invited Presentation, "International Conference on Analysis of Genomics Data," Harvard University, Cambridge, MA, May.

- 2004 David M. Rocke, "Measurement Errors and Data Transformation for Gene Expression Microarray, Proteomics, and Metabolomics Data," Invited Presentation, University of Washington, Seattle, WA, February.
- 2003 David M. Rocke, "Some Principles for the Design and Analysis of Experiments using Gene Expression Arrays and Other High-Throughput Assay Methods," Invited Presentation, Ontario Microarray Network Technology Symposium, University of Toronto, Toronto, Canada, November.
- 2003 David M. Rocke, "Measurement Errors and Data Transformation for Gene Expression Microarray, Proteomics, and Metabolomics Data," Invited Presentation, "Statistical Methods for Gene Expression: Microarrays and Proteomics," Institute for Mathematics and Applications, University of Minnesota, Minneapolis MN, September.
- 2003 David M. Rocke, "Some Principles for the Design and Analysis of Experiments using Gene Expression Arrays and Other High-Throughput Assay Methods," Unilever Research and Development, Edgewater, NJ, July.
- 2003 David M. Rocke, "Measurement Errors and Data Transformation for Gene Expression Microarray, Proteomics, and Metabolomics Data," Invited Presentation, University of Rochester, Rochester, NY, June.
- 2003 David M. Rocke, "Some Principles for the Design and Analysis of Experiments using Gene Expression Arrays and Other High-Throughput Assay Methods," Invited Presentation, Ohio State University, Columbus, OH, May.
- 2003 David M. Rocke, "Measurement Errors and Data Transformation for Gene Expression Microarray, Proteomics, and Metabolomics Data," Invited Presentation, University of Guelph, Guelph, Canada, April.
- 2003 David M. Rocke, "Measurement Errors and Data Transformation for Gene Expression Microarray, Proteomics, and Metabolomics Data," Invited Presentation, Victoria Microarray Consortium Workshop, Melbourne, Australia, April.
- 2003 David M. Rocke, "Measurement Errors and Data Transformation for Gene Expression Microarray, Proteomics, and Metabolomics Data," Invited Presentation, McGill University, Montreal, Canada, March.
- 2003 David M. Rocke, "Measurement Errors and Data Transformation for Gene Expression Microarray Data," Invited Presentation, Ohio State University, Columbus, OH, February.
- 2003 David M. Rocke, "Measurement Errors and Data Transformation for Gene Expression Microarray Data," Invited Presentation, Zyomix Inc., Hayward, CA, January.
- 2003 David M. Rocke, "Large-Scale Nonlinear Optimization Problems Arising from Gene Expression Arrays," Invited Presentation, INFORMS Computing Society Annual Meeting, Phoenix, AZ, January.
- 2002 David M. Rocke, "Measurement Errors and Data Transformation for Gene Expression Microarray Data," and "Prediction and Classification by Partial Least Squares Using Gene Expression Microarray Data," Invited Presentations, University of Delaware, Newark, DE, November.
- 2002 David M. Rocke, "Measurement Errors and Data Transformation for Gene Expression Microarray Data," Invited Presentation, Cambridge Healthtech Institute Second Annual Meeting on Microarray Data Analysis, Washington, DC, September.
- 2002 David M. Rocke, "Prediction and Classification by Partial Least Squares Using Gene Expression Microarray Data," Invited Presentation, Max Planck Institute for Molecular Genetics, Berlin, August.
- 2002 David M. Rocke, "Computational Connections Between Robust Multivariate Analysis and Clustering," Invited Presentation, COMPSTAT 2002, Berlin, August.
- 2002 David M. Rocke, "Prediction and Classification by Partial Least Squares Using Gene Expression Microarray Data," Invited Presentation, Deutsches Krebsforschungszentrum, Heidelberg, August.

- 2002 David M. Roche, "Prediction and Classification by Partial Least Squares Using Gene Expression Microarray Data," Invited Presentation, Joint Statistics Meeting, New York City, August.
- 2002 David M. Roche, "Variance Stabilization by Data Transformation in Gene Expression Microarrays," Invited Presentation, Functional Genomics 2002 Reunion Conference, Institute for Pure and Applied Mathematics, UCLA, June.
- 2002 David M. Roche, "Robust Clustering and Outlier Detection," Invited Presentation, Workshop on Developments and Challenges in Mixture Models, Bump Hunting and Measurement Error Models, Cleveland, OH, June.
- 2002 David M. Roche, "Variance Stabilization by Data Transformation in Gene Expression Microarrays," Invited Presentation, Michigan State University, East Lansing, MI, May.
- 2002 David M. Roche, "Multivariate Outlier Detection and Cluster Identification," Invited Presentation, *Third International Conference on Robust Statistics (ICORS 2002)*, Vancouver, BC, May.
- 2002 David M. Roche, "Constructive Statistics: Estimators, Algorithms, and Asymptotics," Invited Presentation, University of Colorado, Denver, CO, March.
- 2002 David M. Roche, "Some Statistical Issues in the Analysis of Gene Expression Data," Invited Presentation, University of Iowa, Iowa City, IA, February.
- 2002 David M. Roche, "Some Statistical Issues in the Analysis of Gene Expression Data," Invited Presentation, University of Minnesota, Minneapolis, MN, January.
- 2002 David M. Roche, "Some Statistical Issues in the Analysis of Gene Expression Data," Invited Presentation, UC Irvine, Irvine, CA, January.
- 2001 David M. Roche, "Statistical Analysis of Gene Expression Data," Invited Presentation, Chiron, Emeryville, CA, November.
- 2001 David M. Roche, "Modeling Uncertainty in Analytical Measurements for Analysis of Bioavailability," *Methodologies for Assessing Exposure to Metals: Speciation, Bioaccessibility and Bioavailability in the Environment, Food and Feed*, Scientific Group on Methodology for the Safety and Evaluation of Chemicals (SGOMSEC), Schmallingenberg, Germany, October.
- 2001 David M. Roche, "Statistical Analysis of Gene Expression Data," Invited Presentation, The Scripps Research Institute, San Diego, September.
- 2001 David M. Roche and David L. Woodruff, "Variance Functions, Transformations, and the Integrity of Statistical Inference with Biological Data," Invited Presentation, SurroMed, Inc., August.
- 2001 David M. Roche, "Robust Multivariate Analysis and Outlier Detection," Invited Presentation, *Society for Industrial and Applied Mathematics Annual Meeting*, San Diego, July.
- 2001 David M. Roche, "Statistical Analysis of Gene Expression Data," Invited Presentation, University of California, San Diego, June.
- 2001 David M. Roche, "Statistical Analysis of Gene Expression Data," Invited Presentation, Michigan State University, May.
- 2001 David M. Roche, "Statistical Analysis of Gene Expression Data," Invited Presentation, Merck, March.
- 2001 David M. Roche, "Statistical Analysis of Gene Expression Data," Invited Presentation, University of Washington, February.
- 2001 David M. Roche, "Statistical Analysis of Gene Expression Data," Invited Presentation, Lawrence Livermore National Laboratory, February.
- 2000 David M. Roche, "Statistical Analysis of Gene Expression Microarray Data," Invited Presentation, *EUChem Conference on Bioinformatics, Cheminformatics, Datamining, and Chemometrics*, Swedish Chemical Society, Stockholm, September.
- 2000 David M. Roche and David L. Woodruff, "Robust Clustering," Invited Presentation, *Controlling Complexity for Strong Stochastic Dependencies*, Mathematisches Forschungsinstitut Oberwolfach, Oberwolfach, Germany, September.

- 2000 David M. Rocke, David L. Woodruff, and Johanna Hardin, "Robust Cluster Analysis and Outlier Identification," Invited Presentation, *Joint Statistics Meetings 2000*, Indianapolis, August.
- 1999 David M. Rocke, "Robust Multivariate Analysis and Outlier Detection," Invited Presentation, Mathsoft, Inc., Seattle, November.
- 1999 David M. Rocke and Geoff Jones, "Bootstrapping in Controlled Calibration Experiments," Invited Presentation, *43rd Annual Fall Technical Conference, American Society for Quality, American Statistical Association*, Houston, October.
- 1999 David M. Rocke, "Data Mining," Invited Presentation, *Gordon Research Conference on Statistics in Chemistry and Chemical Engineering*, Plymouth, MH, July.
- 1999 David M. Rocke, "Robust Cluster Analysis and Outlier Identification," Invited Presentation, *Conference on Complexity Reduction in Multivariate Datasets*, Universität Dortmund, March.
- 1998 David M. Rocke, "Clustering and Outlier Detection in Massive, High-Dimensional Data Sets," Invited Presentation, *NIPS 98 Workshop on Mining Massive Databases: Scaling Prediction and Clustering to Massive and High Dimensional Data*, Breckenridge, CO, December.
- 1998 David M. Rocke, "Interdisciplinary Collaboration: Why and How?" Invited Presentation, *Society for Industrial and Applied Mathematics Meeting*, Chicago, October.
- 1998 David M. Rocke, "Constructive Statistics: Estimators, Algorithms, and Asymptotics," Invited Presentation, University of Illinois, Chicago, September.
- 1998 David M. Rocke, "Constructive Statistics: Estimators, Algorithms, and Asymptotics," Invited Presentation, Pfizer Central Research, Groton, CT, August.
- 1998 David M. Rocke, "A Two-Component Model for Measurement Error in Analytical Chemistry," Invited Presentation, National Institute for Standards and Technology, Gaithersburg, MD, July.
- 1998 David M. Rocke, "A Two-Component Model for Measurement Error in Analytical Chemistry," Invited Presentation, United States Environmental Protection Agency, Washington, DC, July.
- 1998 David M. Rocke, "Constructive Statistics: Estimators, Algorithms, and Asymptotics," Invited Keynote Address, *30th Symposium on the Interface: Computing Science and Statistics*, Minneapolis, MN, May.
- 1997 David M. Rocke, "Robust Multivariate Analysis and Outlier Detection," Invited Plenary Address, *Annual Meeting of the Belgian Statistical Society*, Mol, Belgium, October.
- 1997 David M. Rocke and David L. Woodruff, "Partitioning and Subsampling to Uncover Subtle Structure in Massive Data Sets," Invited Presentation, *Summer Research Institute on Data Mining*, Seattle, Washington, June.
- 1997 David M. Rocke, "Statistics of Measurement Error in Analytical Chemistry," Invited Presentation, *EPA Twelfth Annual Conference on Environmental Statistics*, Richmond, VA, April.
- 1997 David M. Rocke, "Partitioning and Subsampling to Uncover Subtle Structure in Massive Data Sets," Invited Presentation, *Approaches to the Analysis and Visualization of Massive Data Sets Workshop*, San Diego, CA, March 14 and 15.
- 1996 David M. Rocke, "Statistical Methods for the Identification of and Measurement of Mixtures of Similar Toxic Substances," Invited Presentation, *Superfund Basic Research Program: A Decade of Improving Health through Multidisciplinary Research*, Chapel Hill, NC, February.
- 1996 David M. Rocke, "A Two-Component Model for Measurement Error in Analytical Chemistry," Invited Presentation, *ASMS Fall Workshop on Limits to Confirmation, Quantitation, and Detection*, Alexandria, VA, November.
- 1996 David M. Rocke and David L. Woodruff, "Robust, Affine-Equivariant Cluster Analysis," Invited Presentation, DuPont, Wilmington, DE, October.
- 1996 George W. Downs, David M. Rocke, and Peter Barsoom, "Design and Evolution of Multilateral Agreements," Invited Presentation, *American Political Science Association Annual Meeting*, September.

- 1996 David M. Rocke and George W. Downs, "The Problem of Preference Change in International Security Agreements," Invited Presentation, *American Statistical Association Annual Meeting*, Chicago, August.
- 1996 George W. Downs, David M. Rocke, and Peter Barsoom, "Regime Design and the Depth of Cooperation," Invited Presentation, *International Studies Association Annual Meeting*, San Diego, CA, April.
- 1996 David M. Rocke, "Robust Scale-Free Cluster Analysis," Invited Presentation, Mathematisches Forschungsinstitut Oberwolfach, Mathematische Stochastik, Oberwolfach, Germany, March.
- 1996 David M. Rocke and David L. Woodruff, "Identification of Outliers in Multivariate Data", Invited Presentation, DuPont, Wilmington, DE, February.
- 1995 David M. Rocke, "Predictive Models for Reformulated Gasoline," Invited Presentation, Lawrence Livermore National Laboratory, Livermore, CA, August.
- 1995 David M. Rocke and David L. Woodruff, "Heuristic Combinatorial Search Algorithms for the Detection of Outliers in High Dimension," Invited Presentation, Universität Hannover, Hannover, Germany, March.
- 1995 David M. Rocke and David L. Woodruff, "Robust Estimation and the Identification of Outliers in Multivariate Data," Invited Presentation, Universität Dortmund, Dortmund, Germany, March.
- 1994 David M. Rocke and David L. Woodruff, "Identification of Outliers in Multivariate Data," Invited Presentation, Merrill Lynch, Princeton, NJ, September.
- 1994 David M. Rocke and David L. Woodruff, "Identification of Outliers in Multivariate Data," Invited Presentation, Columbia University, New York, NY, September.
- 1994 David M. Rocke and David L. Woodruff, "Robust Estimation and the Identification of Outliers and Leverage Points in Multivariate Data," Invited Presentation, *Symposium on Future Directions in Robust Methods and Data Analysis*, Princeton, NJ, June.
- 1994 David M. Rocke and David L. Woodruff, "Identification of Outliers in Multivariate Data," Invited Presentation, *26th Symposium on the Interface: Computing Science and Statistics*, Research Triangle Park, NC, June.
- 1993 George W. Downs and David M. Rocke, "Strategies for Treaty Maintenance," Invited Presentation, *MIT/Harvard Joint Seminar Series on International Relations*, April.
- 1992 David M. Rocke, "Optimal Design for Calibration Problems in ELISA," Invited Presentation, *Mathematical Sciences Research Institute Symposium on Industrial Statistics*, Berkeley, May.
- 1992 David M. Rocke, "Statistical Design of Immunoassay Protocols," Invited Presentation, *American Chemical Society Annual Meeting*, San Francisco, April.
- 1989 David M. Rocke, "Robust Control Charts," Invited Presentation, Temple University, Philadelphia, PA, October.
- 1986 David M. Rocke, "Measuring Variation for Quality Improvement Applications," Invited Paper, *Annual Fall Technical Conference*, American Society for Quality Control, Charlotte, North Carolina.
- 1986 David M. Rocke, "Measuring Variations for Quality Control Applications," Invited Paper, *International Research Conference on Reliability and Quality*, Columbia, Missouri.
- 1985 David M. Rocke, "Robust Statistical Analysis of Interlaboratory Studies," Invited Paper, *1985 Gordon Research Conference on Statistics in Chemistry and Chemical Engineering*.
- 1984 David M. Rocke, "A Comparison of Robust and Standard Analyses of Interlaboratory Studies," Invited Paper, *Biometric Society ENAR meeting*, Orlando, Florida.
- 1982 George W. Downs and David M. Rocke, "Multivariate ARIMA Modeling and Municipal Finance," Invited Paper, *Conference on Applied Time Series Analysis of Economics Data*, sponsored by the American Statistical Association, U.S. Bureau of the Census and the National Bureau of Economic Research.
- 1979 David M. Rocke and George W. Downs, "Time Series with Episodic Disruptions," Invited Paper, *Second International Time Series Meetings*, October, Guernsey, U.K.