

PAUL D. SAMPSON**Curriculum Vita and Bibliography****Personal:**

Born: 2 March 1951, Winchester, Massachusetts
 Marital status: Married to Sandra E. Sanford
 Current address: 8458 Tillicum Rd SW, Seattle, WA 98136
 Phone: (206) 932-7374 (home), (206) 685-2664 (office)
 Fax: (206) 685-7419
 Email: pds@stat.washington.edu
 WWW: www.stat.washington.edu/pds

Education:

Brown University, 1969-1973 Sc. B., Applied Mathematics
 Brown University, 1973-1974 Sc. M., Applied Mathematics
 University of Michigan, 1974-1979 Ph. D., Statistics
 Doctoral Dissertation: Statistical analysis of shape with conic sections
 and elliptical distributions on a hypersphere. (Advisor: Prof. Edward Rothman)

Professional career:*Current:*

1998- Department of Statistics, University of Washington: Research Professor and Director of the Statistical Consulting Program.
 1999- National Research Center for Statistics and the Environment, University of Washington: Assistant Director.
 1984- Seattle Longitudinal Study on Alcohol and Pregnancy, University of Washington: Senior Statistician. Data analysis and development of morphometric, latent variable, and longitudinal methods.

Past:

1988-98 Department of Statistics, University of Washington: Research Associate Professor and Director of the Statistical Consulting Program.
 1996- National Research Center for Statistics and the Environment, University of Washington: Executive Committee; 1998, Acting Director.
 1991- Program in Quantitative Ecology and Resource Management, University of Washington: Faculty member.
 1993 Laboratoire de Biométrie, Institut Nationale de la Recherche Agronomique (Montfavet, France), Visiting scientist, May-July, 1993.
 1993 Centre de Géostatistique, Ecole Nationale Supérieure des Mines de Paris (Fontainebleau, France): Directeur de Recherche Associé, Jan-April, 1993.
 1992 Division of Applied Mathematics, Brown University: Visiting scholar, Sept-Dec, 1992.
 1981-88 Department of Statistics, University of Washington: Assistant Professor. Director of the Statistical Consulting Program; teaching introductory statistics and advanced courses in linear models, design of experiments, applied regression and multivariate analysis; research.
 1985-87 Department of Statistics, University of British Columbia: Visiting Lecturer. Research on spatial analysis of acid rain data; Spring quarters, 1985, 1986, 1987.

- 1979-81 Department of Statistics, University of Chicago: Research Associate (Assistant Professor). Supervising department consulting program; teaching introductory statistics and graduate multivariate analysis; research.
- 1978-79 Department of Statistics, University of Michigan: Teaching Assistant.
- 1976 Department of Statistics, University of Michigan: Research Assistant. Computer programming and statistical analysis of enzyme kinetics models.
- 1974-78 Statistical Research Laboratory, University of Michigan: Research Assistant. General statistical consulting.
- 1972 National Science Foundation Student-Originated-Study of pollution in Mt. Hope Bay, Rhode Island: Mathematical and statistical modeling.
- 1978- General Statistical Consulting. Data analysis and modelling for statistical studies, clients including: Center for Forensic Psychiatry of the Michigan Department of Mental Health, 1978; Nisqually Indian Tribe, 1982-1985; Washington Dept of Fisheries, 1984-5, 1987; U.S. Environmental Protection Agency, 1989; Washington Research Institute, Seattle, 1989-91; Washington State Dept of Ecology, 1989-90; CAPSCAN, Inc., 1990; Health Effects Institute, 1995. Data analysis and statistical advice for litigation, clients including: General Telephone Directory Co., 1980; Internal Revenue Service, 1980; Boeing Airplane Co., 1982; Washington State Dept of Ecology, 1990; Society for Counsel Representing Accused Persons, 1996; U.S. Dept of Justice, 1996-00; The Public Defender, 2003.

Honors, Awards, Grants & Contracts:

Past:

- 1973-74 Brown University Graduate School Fellowship.
- 1975 Institute of Mathematical Statistics Award, Department of Statistics, University of Michigan.
- 1975-76 University of Michigan Fellowship (pre-candidacy).
- 1976-77 University of Michigan Rackham Fellowship.
- 1980 Member, Society of the Sigma Xi, University of Chicago, 1980.
- 1982 SIMS/EPA Cooperative Agreement for statistical research on problems in water pollution, summer salary 1982.
- 1982-83 Nisqually Indian Tribe contract for development of an in-season run size estimator for the native chum stock in the Nisqually River (funding from the Bureau of Indian Affairs); PI (co-investigator Dr. M.L. Thompson).
- 1984 University of Washington Graduate School Research Fund Award for research in morphometrics; PI.
- 1984-88 NIAAA: Prenatal Alcohol Exposure and Offspring Development: grants for development of statistical methods and analysis of data from the Seattle Longitudinal Study on Alcohol and Pregnancy; PI: Prof. Ann P. Streissguth, Psychiatry & Behav. Sci.
- 1985 PI on contract funding graduate student RA Russell Millar doing research on estimation methods for mixed stock fisheries.
- 1985-87 SIMS/EPA: Cooperative Agreement for statistical research in environmetrics and problems of acid deposition; co-PI with Prof. P. Guttorp at the Univ. of Washington and collaborative researchers at the Univ. of British Columbia, Stanford Univ., and the Rand Corporation.
- 1987 Washington Department of Fisheries: contract for further development of the Nisqually Chum in-season run size estimation model and program; PI (co-investigator Dr. M.L. Thompson)
- 1987-90 EPRI (Electric Power Research Institute): contract for research on Global Nonparametric Estimation of Spatial Covariance Patterns; co-PI with Prof P. Guttorp; \$164K/3 yrs.

- 1987-90 SIMS/EPA Cooperative Agreement for statistical research on problems of acid deposition; co-PI with Prof. P. Guttorp; \$173K/3 yrs.
- 1988-89 ADAI (Alcohol and Drug Abuse Institute, Univ. of Washington): grant for study of First Trimester Fetal Marijuana Exposure and Facial Dysmorphogenesis; PI: Dr. Sterling K. Clarren, Pediatrics.
- 1988-93 NIAAA: Prenatal Alcohol Exposure and Offspring Development; PI: Prof. Ann P. Streissguth, Psychiatry & Behav. Sci.
- 1990-91 Washington State Dept of Ecology: Waste Sampling Plan; \$3.5K.
- 1991-92 U.W. Orthodontic Alumni Fund: Analysis of the Long-Term Stability of Arch Form in Orthodontically Treated Patients; \$6K.
- 1993-95 NIAAA: Prenatal Alcohol Exposure and Offspring Development; PI: Prof. Ann P. Streissguth, Psychiatry and Behav. Sci.
- 1993-95 EPRI (Electric Power Research Institute): contract for research on Methods for the Operational Evaluation of an Air Quality Model; co-PI with Prof P. Guttorp; \$257K/2 yrs.
- 1993 INRA (Insitut Nationale de la Recherche Agronomique): grant for research on spatial statistics and environmental monitoring data; 51K FF/3 mths.
- 1994-95 Washington Technology Center: Software System for Cardiac Multimedia Data; PI: Dr. Florence H. Sheehan, MD.
- 1995-99 NIAAA: Prenatal Alcohol Exposure and Offspring Development; \$1500K/4 yrs. PI: Prof. Ann P. Streissguth, Psychiatry & Behav. Sci.
- 1995-97 NSF: Integrating Heterogeneous Geophysical data by Combining Error Structures: An Interdisciplinary Pilot Project (DMS-9418904); \$88K/2 yrs (to OSU). co-PI with Dr. Gad Levy (Univ of Washington and Oregon State Univ) and Dr. Calton Pu (Oregon Graduate Institute).
- 1995-96 UW RRF: Automatic Construction of 3D Heart Models from Ultrasound Images \$15K/1 yr. PI.
- 1999-00 UW ADAI: Brain Morphometry in FAS/FAE and Normal Subjects \$15K (1999).
- 1996-01 NIAAA: Neuroanatomic-Psychologic Analyses of FAS/FAE Deficits \$1130K/4 yrs. PI: Prof. Ann P. Streissguth, Psychiatry and Behavioral Sciences (current support at 20%).
- 1997-01 EPA: National Research Center for Statistics and the Environment. PI for projects on spatio-temporal modeling and the operational evaluation of air quality models. Co-Investigator on various other NRCSE grants (current support at approx 25%).

Current:

- 1999-2004 NIAAA: Alcohol Intake During Pregnancy: Offspring Development \$2000K/5 yrs. PI: Prof Ann P. Striessguth, Psychiatry and Behavioral Sciences (current support at 20%).
- 2002-03 EPA. Use of Kriging to Develop Ambient Air Concentration Estimates for Ozone for 1986-1994 for 83 Counties in the U.S. Contract with the Center for Statistical Consulting, \$85K. (20% support).
- 2002-05 NIAAA: Functional MRI of Cognitive Activation in FAS/FAE \$740K/3 yrs. PI: Dr. Paul D. Connor. (10% support)

Grant Proposals Pending:

- 2002-06 NIH: Ultrasound Segmentation for Prostate Brachytherapy, \$1,204K/4 yrs. PI: Dr. Yongmin Kim. (5% support)
- 2003-06 NIAAA: Neuroanatomic-Psychologic Analyses of FAS/FAE Deficits \$918K/3 yrs. PI: Prof. Ann P. Streissguth, Psychiatry and Behavioral Sciences (30% support).

Memberships:

American Statistical Association
 Biometric Society
 Institute of Mathematical Statistics
 International Environmetric Society

Invited Conference Lectures:

- 1980 Symposium on Dental Arch Form, University of Illinois Medical Center, May (Fitting and analysis of dental arch shape).
- 1984 IMS/Biometric Society Western Regional Meeting, Utah State University, June (Chair and organizer of Statistics for biologic shape session).
 International Biometric Conference, Tokyo, September (Measure of 'size' independent of 'shape' for lognormal populations).
- 1985 Joint Statistical Meetings, Las Vegas, August (Discussant of session on linear models).
- 1987 Symposium on Shape Theory (at Wilks Lectures given by David Kendall) at Princeton, May (Geometric components of shape change).
 University of Leeds, England, September (Geometric components of shape change; at Workshop on Shape Analysis).
 International Symposium on PLS Model Building: Theory and Applications, Frankfurt, Germany, September (Multivariate regression analysis with latent variables and nonlinear scaling).
- 1989 IMS/Biometric Society Western Regional Meeting, University of California at Davis, June 1989 (Estimation of nonstationary spatial covariance structure).
- 1990 Symposium on Shape Theory, Princeton, April (Computation and application of biorthogonal grids for plane mappings.)
 IMS/Biometric Society Western Regional Meeting, Montana State University, Bozeman, MT, June (Nonstationary spatial covariance structure of rainfall fields).
- 1991 Society for the Interface on Computer Science and Statistics, Seattle, April (Computation and interpretation of deformations for landmark data in morphometrics and environmetrics).
 EPA CASTNET Statistical Design Workshop, Research Triangle Park, NC (Spatial covariance structure and entropy-based monitoring network design).
- 1993 NATO Advanced Study Institute (Advances in Morphometrics), Il Ciocco (Lucca), Italy, July (Morphometric analysis of left ventricular function from ventriculograms: methods for the analysis of landmarks, curves, and surfaces).
- 1994 Joint Statistical Meetings, Toronto, August (Spatio-temporal analysis of regional ozone data for operational evaluation of a photochemical model).
- 1995 Advances in Shape Analysis, Leeds, April 1995 (Eigenshape analysis of the left ventricle).
 Gordon Research Conference on Statistics in Chemistry and Chemical Engineering, New Hampton NH, August (Spatio-temporal analysis of regional ozone data).
 Joint Statistical Meetings, Orlando, August (Morphometrics in the analysis of 3D echocardiographic images).
- 1996 IMS Eastern Regional and ENAR Spring Meeting, Richmond VA, March (invited discussant for a session on morphometrics).
 IMS Western Regional and WNAR Summer Meeting, Pullman WA, June (Spatio-temporal modeling and analysis for operational evaluation of an air quality model).
- 1997 Joint Statistical Meetings, Anaheim, August (Spatio-temporal modeling for an hourly air quality monitoring network)

- 1998 Workshop on Applications of Spatial Statistics in Earth, Environmental, and Health Sciences, University of Montreal, April (Tropospheric ozone, air quality standards, photochemical models, and air quality monitoring data).
 Novartis Foundation Symposium on Environmental Statistics: Analyzing Data for Environmental Policy, and RSS Open Meeting, London, May (Operational evaluation of air quality models).
 Society for the Interface on Computer Science and Statistics, Minneapolis, May (Spatio-temporal models and methods for the operational evaluation of air quality models)
 Joint Statistical Meetings, Dallas, August (Monitoring network design and air quality standards).
 NRCSE Co-chair, Particulate Methodology Workshop, Seattle, October 1998.
- 1999 HSSS/SPRUCES Workshop on Complex Models and Methods for Environmental Problems, Cromford, England, May (Invited plenary speaker on Sampling and Monitoring: Network Design and Air Quality Standards).
 EPA Conference on Statistics and Information, Philadelphia, May (Network Design and Air Quality Standards).
- 2000 Joint Statistical Meetings, Indianapolis, August (Nonstationary spatial covariance structure; invited discussant)
 The International Environmetric Society/SPRUCES Meeting, Sheffield, England, September (Invited plenary speaker: Developments in the modeling of the nonstationary covariance structure of environmental processes).
 International GeoENV 2000 Conference, Avignon, France, November (Invited plenary speaker: Advances in modeling and inference for environmental processes with nonstationary spatial covariance).
- 2001 EPA Conference on Environmental Statistics and Information, Philadelphia, May (Developments in the Modeling of Nonstationary Spatial Covariance Structure)
 NSF/CBMS Regional Conference in the Mathematical Sciences: Environmental Statistics, Seattle, June (invited lecturer on Modeling of nonstationary spatial covariance)
 Joint Statistical Meetings, Atlanta, August (Monitoring Network Design session organizer and speaker on Air quality monitoring network design using Pareto Optimality methods for multiple objective criteria)
 TIES (The International Environmetric Society), Portland, August (Invited speaker on: Developments in the Modeling of Nonstationary Spatial Covariance Structure).
 1st Spanish Workshop on Spatio-Temporal Modelling of Environmental Processes, Benicassim (Castellon) Spain, October (Invited speaker on: Deformation-based nonstationary spatial covariance modeling and network design.)
- 2002 TIES (The International Environmetric Society), Genoa Italy, June (Invited speaker on: Geostatistical approaches to assessment of regional air quality models)
- 2003 SAMSI (Statistical and Applied Mathematical Sciences Institute), Workshop on Multi-Scale Modeling, Research Triangle Park, February. (Invited speaker on: Nonstationary spatial covariance modeling via spatial deformation and extensions to covariates and models for dynamic atmospheric processes.)
 International Conference on Environmental Statistics and Health, Santiago de Compostela Spain, July. (Invited speaker on: Air quality monitoring network design using Pareto optimality methods for multiple objective criteria)

Other invited presentations and contributed papers: (outside the U.W. Dept. of Statistics)

- 1980 IMS Central Regional Meeting, University of Iowa, April, (Elliptical distributions on a hypersphere).
 SIAM Summer Research Conference on Numerical and Statistical Analysis, University of Delaware, June (Fitting conic sections).
 Northwestern University, November (Elliptical distributions on hyperspheres).
 University of Minnesota, December (Statistical analysis of arch shape).
- 1982 University of British Columbia, March (Statistical analysis of arch shape).
 University of Washington, Dept. of Biostatistics, April (Statistical analysis of arch shape).
- 1983 University of Washington, Center for Quantitative Science, February (Fishing with EM for an estimator of a salmon run).
 Second Pacific Coast Conference on the Mathematical Modelling of Renewable Resources, University of Victoria, May (Fishing with EM).
 Joint Statistical Meetings, Toronto, August (Fishing with EM).
- 1984 ASA Puget Sound Chapter Meeting, February (Fishing with EM).
 Oregon State University, March (Fishing with EM).
 University of British Columbia, November (Interpolation of spatial covariance structures with metric scaling and biorthogonal grids).
- 1986 Joint Statistical Meetings, Chicago, August (Estimation of spatial covariance using scaled-metric scaling and biorthogonal grids).
- 1987 University of Washington (Dept of Statistics), May (Latent variable modeling and nonlinear scaling using Partial Least Squares).
 International Acid Rain Conference, Lisbon, Portugal, September (Mesoscale variations in rainwater chemistry).
 Joint Statistical Meetings, San Francisco, August (Geometric components of shape change).
 University of Durham, England, September (Mesoscale variations in rainwater chemistry).
- 1988 Cornell University, March (Latent variable modeling and PLS).
 Statistical Society of Canada Annual Meeting, Victoria, BC, June (Testing for interaction using transformed data).
- 1991 Univ. of Washington (Dept of Biostatistics), March (Estimation of 'dose' and 'response' by Partial Least Squares in human behavioral teratology studies).
 Univ. of Washington (Dept of Statistics), April (Nonstationary covariance--network design, spatial estimation, and model evaluation), w/ P. Guttorp.
- 1992 Division of Applied Mathematics, Brown University, October (Nonstationary spatial covariance structure).
 Division of Applied Mathematics, Brown University, December (Morphometric analysis of cardiac function and identification of left ventricular borders from echocardiograms).
- 1993 Centre de Géostatistique, Ecole Nationale des Mines de Paris (Fontainebleau, France), February (Nonstationary spatial covariance structure).
 Department of Statistics, University of Leeds, March (Nonstationary spatial covariance structure).
 Department of Statistics, Trinity College Dublin, April (Nonstationary spatial covariance structure).
 Université René Descartes (Paris V), April (Nonstationary spatial covariance structure).

- Journées de Géostatistique, Conference at the Centre de Géostatistique, Fontainebleau, May (Modelling of heterogeneous spatial correlation structure by spatial deformation and analysis of rainfall data; with P. Monestiez).
- Université Pierre Mendès-France, Grenoble, June (Modelling of heterogeneous spatial correlation structure by spatial deformation and analysis of rainfall data).
- 1995 Ocate (Oregon Center for Advanced Technology Education) Seminar, May (Spatio-temporal analysis of regional ozone data for operational evaluation of a photochemical model; invited seminar sponsored by the Oregon Graduate Institute and Oregon State University).
- 1996 Modelling of Longitudinal and Spatially Correlated Data, Nantucket MA, October (poster on Spatio-Temporal Modeling and Analysis of Tropospheric Ozone).

Publications:

Refereed journal articles

- [1] Freiburger, W.F., Grenander, U., and **Sampson, P.D.** (1975). Patterns in Program References. *IBM Journal of Research and Development*, 19, 230-243.
- [2] **Sampson, P.D.** (1979). Comment on 'Splines and Restricted Least Squares'. *Journal of the American Statistical Association*, 74, 303-305.
- [3] **Sampson, P.D.** (1981). Dental Arch Shape: A Statistical Analysis Using Conic Sections. *American Journal of Orthodontics*, 79, 535-550.
- [4] **Sampson, P.D.** (1982). Fitting Conic Sections to 'Very Scattered' Data: An Iterative Refinement of the Bookstein Algorithm. *Computer Graphics and Image Processing*, 18, 97-108.
- [5] Barrett, T.B., **Sampson, P.D.**, Owens, G.K., Schwartz, S.M., and Benditt, E.P. (1983). Polyploid Nuclei in Human Artery Wall Smooth Muscle Cells. *Proceedings of the National Academy of Sciences*, 80, 882-885.
- [6] **Sampson, P.D.** (1983). Statistical Analysis of Arch Shape with Conic Sections. *Biometrics*, 39, 411-424.
- [7] **Sampson, P.D.**, and Siegel, A.F. (1985). The Measure of Size Independent of Shape for Multivariate Lognormal Populations. *Journal of the American Statistical Association*, 80, 910-914.
- [8] Little, R.E., Asker, R.L., **Sampson, P.D.**, and Renwick J.H. (1986). Fetal Growth and Moderate Drinking in Early Pregnancy. *American Journal of Epidemiology*, 123, 270-278.
- [9] Bertram, J.F., **Sampson, P.D.**, and Bolender, R.P. (1986). Influence of Tissue Composition on the Final volume of Rat Liver Blocks Prepared for Electron Microscopy. *Journal of Electron Microscopy Technique* 4, 303-314.
- [10] Streissguth, A.P., Barr, H.M., **Sampson, P.D.**, Parrish-Johnson, J.C., Kirchner, G.L., and Martin, D.C. (1986). Attention, Distraction and Reaction Time at 7 Years and Prenatal Alcohol Exposure. *Neurobehavioral Toxicology and Teratology* 8, 717-725.
- [11] Streissguth, A.P., Treder, R.P., Barr, H.M., Shepard, T.H., Bleyer, W.A., **Sampson, P.D.**, and Martin, D.C. (1987). Aspirin and Acetaminophen Use by Pregnant Women and Subsequent Child IQ and Attention Decrements. *Teratology* 35, 211-219.
- [12] Clarren, S.K., **Sampson, P.D.**, Larsen, J., Donnell, D.J., Barr, H., Bookstein, F.L., Martin, D.C., and Streissguth, A.P. (1987). Facial Effects of Fetal Alcohol Exposure: Assessment by Photographs and Morphometric Analysis. *American Journal of Medical Genetics* 26, 651-666.
- [13] Vong, R.J., Moseholm, L., Covert, D.S., **Sampson, P.D.**, O'Loughlin, J.F., Stevenson, M.N., Charlson, R.J., Zoller, W.H., and Larson, T.V. (1988). Spatial and Temporal Variations in Urban Rainwater Chemistry: Changes in pH and Sulfate Associated with the Closure of a Copper Smelter. *Journal of Geophysical Research*, 93D6, 7169-7179.

- [14] Sheller, B., Clarren, S.K., Astley, S.J., and **Sampson, P.D.** (1988). Morphometric Analysis of *Macaca nemestrina* Exposed to Ethanol During Gestation. *Teratology*, 38, 411-417.
- [15] Streissguth, A.P., Barr, H.M., **Sampson, P.D.**, Darby, B.L., and Martin, D.C. (1989). IQ at Age Four in Relation to Maternal Alcohol Use, Caffeine Use, and Smoking During Pregnancy, *Developmental Psychology*, 25, 3-11. (Abstracted in *Science News*, 135, 68.)
- [16] Streissguth, A.P., Barr, H.M., **Sampson, P.D.**, Bookstein, F.L., and Darby, B.L. (1989). Neurobehavioral Effects of Prenatal Alcohol: Part I. Research Strategy, *Neurotoxicology and Teratology*, 11, 461-476.
- [17] **Sampson, P.D.**, Streissguth, A.P. Barr, H.M., and Bookstein, F.L. (1989). Neurobehavioral Effects of Prenatal Alcohol: Part II. Partial Least Squares Analyses, *Neurotoxicology and Teratology*, 11, 477-491.
- [18] Streissguth, A.P., Bookstein, F.L., **Sampson, P.D.**, and Barr, H.M. (1989). Neurobehavioral Effects of Prenatal Alcohol: Part III. PLS Analyses of Neuropsychologic Tests, *Neurotoxicology and Teratology*, 11, 493-507.
- [19] Fujisaki, J.M., van Belle, G., and **Sampson, P.D.** (1990). Size and Shape Variables in the Presence of Covariates: An Application to the Sudden Infant Death Syndrome, *Journal of Clinical Epidemiology*, 43, 173-180.
- [20] Barr, H.M., Streissguth, A.P., Darby, B.L., and **Sampson, P.D.** (1990). Prenatal Exposure to alcohol, caffeine, tobacco and aspirin: Effects on Fine and Gross Motor Performance in 4-Year Old Children, *Developmental Psychology*, 26(3), 339-348.
- [21] Raymundo, H., Scher, A.M., O'Leary, D., and **Sampson, P.D.** (1989). Cardiovascular Control by Arterial and Cardiopulmonary Baroreceptors in Awake Dogs with Atrioventricular Block, *American Journal of Physiology*, 257 (Heart Circ. Physiol. 26), H2048-H2058.
- [22] Ketterlinus, R.D., Bookstein, F.L., **Sampson, P.D.**, and Lamb, M.E. (1989). Partial Least Squares Analysis in Developmental Psychopathology, *Development and Psychopathology*, 1, 351-371.
- [23] **Sampson, P.D.** and Guttorp, P. (1990). Power Transformations and Tests of Environmental Impact as Interaction Effects, *American Statistician*, 45, 83-89.
- [24] Bookstein, F.L., **Sampson, P.D.**, Streissguth, A.P., and Barr, H.M. (1990). Measuring 'Dose' and 'Response' with Multivariate Data using Partial Least Squares Techniques, *Communications in Statistics*, 19(3), 765-804.
- [25] Bookstein, F.L. and **Sampson, P.D.** (1990). Statistical Models for Geometric Components of Shape Change in Landmark Data, *Communications in Statistics*, 19, 1939-1972.
- [26] Posner, K.L., **Sampson, P.D.**, Caplan, R.A., Ward, R.J., and Cheney, F.W. (1990). Measuring Interrater Reliability Among Multiple Raters: An Example of Methods for Nominal Data, *Statistics in Medicine*, 9, 1103-1115.
- [27] Streissguth, A.P., Barr, H.M., and **Sampson, P.D.** (1990). Moderate Prenatal Alcohol Exposure: Effects on Child IQ and Learning Problems at Age 7 1/2 Years, *Alcoholism: Clinical and Experimental Research*, 14, 662-669.
- [28] Astley, S.J., Clarren, S.K., Little, R.E., **Sampson, P.D.**, and Daling, J.R. (1992). Analysis of Facial Shape in Children Gestationally Exposed to Marijuana, Alcohol, and/or Cocaine, *Pediatrics*, 89, 67-77.
- [29] **Sampson, P.D.** and Guttorp, P. (1992). Nonparametric Estimation of Nonstationary Spatial Covariance Structure, *Journal of the American Statistical Association*, 87, 108-119.
- [30] Carmichael Olson, H., **Sampson, P.D.**, Barr, H.M., Streissguth, A.P., and Bookstein, F.L. (1992). Prenatal Exposure to Alcohol and School Problems in Late Childhood: A Longitudinal Prospective Study, *Development and Psychopathology*, 4, 341-359.

- [31] Streissguth, A.P., **Sampson, P.D.**, Carmichael Olson, H., Bookstein, F.L., Barr, H.M., Scott, M., Feldman, J., and Mirsky, A.F. (1994). Maternal Drinking During Pregnancy and Attention/Memory Performance in 14-year-old Offspring: A Longitudinal Prospective Study, *Alcoholism: Clinical and Experimental Research*, 18(1), 202-218. (Abstracted in *Digest of Addiction Theory & Application*, 13(8), 6.)
- [32] Streissguth, A.P., Barr, H.M., Carmichael Olson, H., **Sampson, P.D.**, Bookstein, F.L., and Burgess, D.M. (1994). Drinking During Pregnancy Decreases Word Attack and Arithmetic Scores on Standardized Tests: Adolescent Data from a Population-Based Prospective Study, *Alcoholism: Clinical and Experimental Research*, 18, 248-254.
- [33] **Sampson, P.D.** Bookstein, F.L., Barr, H.M., and Streissguth, A.P. (1994). Prenatal Alcohol Exposure, Birthweight, and Measures of Child Size from Birth to Age 14 Years, *American Journal of Public Health*, 84(9), 1421-1428.
- [34] Guttorp, P., Meiring, W, and **Sampson, P.D.** (1995). A Space-Time Analysis of Ground Level Ozone Data, *Environmetrics*, 5, 241-254.
- [35] Streissguth, A.P., Barr, H.M., **Sampson, P.D.**, and Bookstein, F.L. (1994). Prenatal Alcohol and Offspring Development: The First Fourteen Years. *Drug and Alcohol Dependence*, 36, 89-99.
- [36] Streissguth, A.P., Bookstein, F.L., **Sampson, P.D.**, and Barr, H.M. (1995). Attention: Prenatal Alcohol and Continuities of Attention from 4 through 14 years, *Development and Psychopathology*, 7, 419-446.
- [37] De La Cruz R.A., **Sampson, P.D.**, Little, R.M., Artun, J., and Shapiro, P.A. (1995). Long-term Changes in Arch Form after Orthodontic Treatment and Retention, *American Journal of Orthodontics and Dentofacial Orthopaedics*, 107(5), 518-530.
- [38] Bookstein, F.L., Streissguth, A.P., **Sampson, P.D.**, and Barr, H.M. (1996). Exploiting Redundant Measurement of Dose and Developmental Outcome: New Methods from the Behavioral Teratology of Alcohol, *Developmental Psychology*, 32(3), 404-415.
- [39] Jamet, Ph., **Sampson, P.D.**, Vincent, F. (1997) Statistical Evaluation of the Vulnerability of Groundwater Wells: A Case Study from the Strasbourg Polygone Pumping Field, *Ground Water*, 35(3), 427-435.
- [40] Carmichael Olson, H., Streissguth, A.P., **Sampson, P.D.**, Barr, H.M., Bookstein, F.L., and Thiede, K. (1997). Association of Prenatal Alcohol Exposure with Behavioral and Learning Problems in Early Adolescence, *Journal of the American Academy of Child and Adolescent Psychiatry*, 36(9), 1187-1194.
- [41] **Sampson, P.D.**, Streissguth, A.P., Bookstein, F.L., Kerr, B., Carmichael Olson, H., Hunt, E., Thiede, K., Barr, H.M. (1997) The Effects of Prenatal Alcohol Exposure on Adolescent Cognitive Performance: A Speed-Accuracy Tradeoff, *Intelligence*, 24, 329-353.
- [42] **Sampson, P.D.**, Streissguth, A.P., Bookstein, F.L., Little, R.E., Clarren, S.K., Dehaene, Ph., Hanson, J.W., and Graham, J.M. (1997). The Incidence of Fetal Alcohol Syndrome and the Prevalence of Fetal Alcohol Effects, *Teratology*, 56, 317-326.
- [43] Carmichael Olson, H., Feldman, J.J., Streissguth, A.P., **Sampson, P.D.**, and Bookstein, F.L. (1998). Neuropsychological Deficits in Adolescents with Fetal Alcohol Syndrome: Clinical Findings, *Alcoholism: Clinical and Experimental Research*, 22, 1998-2012.
- [44] Streissguth, A.P., Bookstein, F.L., Barr, H.M., Press, S., and **Sampson, P.D.** (1998). A Fetal Alcohol Behavior Scale, *Alcoholism: Clinical and Experimental Research*, 22, 325-333.
- [45] Meiring, W., Guttorp, P., and **Sampson, P.D.** (1998). Space-time estimation of grid-cell hourly ozone levels for assessment of a deterministic model, *Environmental and Ecological Statistics* 5: 197-222.

- [46] Baer, J.S., Barr, H.M., Bookstein, F.L., **Sampson, P.D.**, and Streissguth, A.P. (1998). Prenatal Alcohol Exposure and Family History of Alcoholism in the Etiology of Adolescent Alcohol Problems. *Journal of Alcohol Studies*, 59, 533-543.
- [47] Ernst, C.C., Grant, T.M., Streissguth, A.P., and **Sampson, P.D.** (1999). Intervention with high-risk and drug-abusing mothers: II. 3-year findings from the Seattle Model of Paraprofessional Advocacy. *Journal of Community Psychiatry*, 27(1), 19-38.
- [48] Streissguth, A.P., Barr, H.M., Bookstein, F.L., **Sampson, P.D.**, and Carmichael Olson, H. (1999) The Longterm Neurocognitive Consequences of Prenatal Alcohol: A 14-year Study. *Psychological Science*, 10(3), 186-190.
- [49] Swanson, M.W., Streissguth, A.P., **Sampson, P.D.**, and Carmichael Olson, H. (1999) Prenatal Cocaine and Neuromotor Outcome of Infants at Four Months: Effect of Duration of Exposure, *Developmental and Behavioral Pediatrics*, 20(5), 325-334.
- [50] Connor, P.D., Streissguth, A.P., **Sampson, P.D.**, Bookstein, F.L., and Barr, H.M. (2000) Individual Differences in Auditory and Visual Attention in Fetal Alcohol Affected Adults, *Alcoholism: Clinical and Experimental Research*, 23(8), 1395-1402.
- [51] **Sampson, P.D.**, Streissguth, A.P., Bookstein, F.L., & Barr, H., (2000). On categorizations in analyses of alcohol teratogenesis. In T.J. Goehl, ed., *Environmental Influences on Children: Brain, development, and behavior. Environmental Health Perspectives*, 108 (supplement 3), 421-428.
- [52] Thompson, M.L., Reynolds, J., Cox, L.H., Guttorp, P., and **Sampson, P.D.** (2001). A Review of Statistical methods for the Meteorological Adjustment of Tropospheric Ozone, *Atmospheric Environment*, 35, 617-630.
- [53] Damian, D., **Sampson, P.D.**, and Guttorp, P. (2001). Bayesian Estimation of Semi-parametric Non-stationary Spatial Covariance Structures, *Environmetrics*, 12, 161-178.
- [54] Connor, P.D., **Sampson, P.D.**, Bookstein, F.L., Barr, H.M., and Streissguth, A.P. (2001). Direct and Indirect Effects of Prenatal Alcohol Damage on Executive Function. *Developmental Neuropsychology*, 18(3):331-354.
- [55] Bookstein, F.L., **Sampson, P.D.**, Streissguth, A.P., and Connor, P.D. (2001). Geometric Morphometrics of Corpus Callosum and Neighboring Structures in the Fetal-Alcohol-Affected Brain, *Teratology*, 64:4-32, 2001.
- [56] Bookstein FL, Streissguth AP, **Sampson PD**, Connor PD, Barr, HM (2002). Corpus callosum shape hypervariation covaries with neuropsychological deficits in adult males with heavy fetal alcohol exposure. *NeuroImage*, 15(1):233-251, 2002.
- [57] Bookstein FL, **Sampson PD**, Connor PD, Streissguth AP (2002). The midline corpus callosum is a neuroanatomical focus of fetal alcohol damage. *The Anatomical Record - The New Anatomist*, 269:162-174, 2002.
- [58] Kartin D, Grant TM, Streissguth AP, **Sampson PD**, Ernst CC (2002). Three-year developmental outcomes in children with prenatal alcohol and drug exposure. *Pediatric Physical Therapy* 14(3), 145-153.
- [59] Thompson, M.L., Cox, L.H., and **Sampson, P.D.**, and Caccia, D.C. (2002). Statistical Hypothesis Testing Formulations for U.S. Environmental Regulatory Standards for Ozone, *Environmental and Ecological Statistics* 9(4), 321-339.
- [60] Baer JS, **Sampson PD**, Barr HM, Connor PD, Streissguth AP (2003). A 21-year longitudinal analysis of the effects of prenatal alcohol exposure on young adult drinking. *Archives of General Psychiatry*, 60(4), 377-85.
- [61] Damian D, **Sampson PD**, Guttorp P. (2003). Variance modeling for nonstationary processes with temporal replications. *Journal of Geophysical Research – Atmosphere* (in press).

Book

- [B1] Streissguth, A.P., Barr, H.M., Bookstein, F.L., and **Sampson, P.D.** (1993) *The Enduring Effects of Prenatal Alcohol Exposure on Child Development, Birth through 7 Years: A Partial Least Squares Solution*, University of Michigan Press. (300 pp)

Book chapters and conference proceedings

- [C1] **Sampson, P.D.**, and Siegel, A.F. (1984). The Measure of Size Independent of Shape for Multivariate Lognormal Populations: Definition and Applications. *Proceedings of the XIIth International Biometric Conference*, Tokyo, Japan, 235-244.
- [C2] Streissguth, A.P., **Sampson, P.D.**, Barr, H.M., Clarren, S.K., Martin, D.C. (1986). Studying Alcohol Teratogenesis from the Perspective, of the Fetal Alcohol Syndrome: Methodological and Statistical Issues. In: *Mental Retardation: Research, Education & Technology Transfer*, Annals of the N.Y. Academy of Sciences, Vol. 477, eds. H.M. Wisniewski and D.E. Snider, pp. 63-86.
- [C3] Vong, R.J., Moseholm, L., Covert, D.S., **Sampson, P.D.**, O'Loughlin, J.F., Stevenson, M.N., Charlson, R.J., Zoller, W.H., and Larson, T.V. (1987). Statistical Analysis of Spatial and Temporal Variations in Urban Rainwater Chemistry: Changes in pH and Sulfate Associated with the Closure of a Copper Smelter. In: *Acid Rain: Scientific and Technical Advances*, eds. R. Perry, R.M. Harrison, J.N.B. Bell, and J.N. Lester, London: Selper Ltd., pp. 90-97.
- [C4] Bookstein, F.L. and **Sampson, P.D.** (1987). Statistical Models for Geometric Components of Shape Change in Landmark Data. In: *Proceedings of the Section on Statistical Graphics*, American Statistical Association.
- [C5] Streissguth, A.P., Barr, H.M., and **Sampson, P.D.** (1992). Alcohol Use During Pregnancy and Child Development: A Longitudinal Prospective Study of Human Behavioral Teratology. In *Longitudinal Studies of Children at Psychological Risk: Cross-National Perspectives*, C.W. Greenbaum and J.G. Auerbach, eds., Norwood, NJ: Ablex, pp. 174-200.
- [C6] Streissguth, A.P., **Sampson, P.D.**, and Barr, H.M. (1989). Neurobehavioral Dose-Response Effects of Prenatal Alcohol Exposure in Humans from Infancy to Adulthood, In: *Prenatal Abuse of Licit and Illicit Drugs*, Annals of the N.Y. Academy of Sciences, Vol. 562, ed. D.E. Hutchings, pp. 145-158.
- [C7] Streissguth, A.P., **Sampson, P.D.**, Barr, H.M., Bookstein, F.L., and Carmichael Olson, H. (1994). Effects of Prenatal Alcohol vs. Tobacco on Children: Contributions from the Seattle Longitudinal Prospective Study and Implications for Public Policy, in *Prenatal Exposure to Toxicants: Developmental Consequences*, H.L. Needleman & D. Bellinger, eds, Baltimore, MD: Johns Hopkins Univ Press, pp. 148-183.
- [C8] **Sampson, P.D.**, Lewis, S., Guttorp, P., Bookstein, F.L., and Hurley, C.B. (1991). Computation and Interpretation of Deformations for Landmark Data in Morphometrics and Environmetrics, in *Computing Sciences and Statistics: Proceedings of the 23rd Symposium on the Interface*. ed. E.M. Keramidas, pp. 534-541.
- [C9] Guttorp, P., **Sampson, P.D.**, and Newman, K. (1992). Nonparametric Estimation of Spatial Covariance with Application to Monitoring Network Evaluation, in *Statistics in Environmental and Earth Sciences*, eds. P. Guttorp and A. Walden, Sevenoaks, UK: Edward Arnold, pp. 39-51.
- [C10] Monestiez, P., **Sampson, P.D.**, and Switzer, P. (1992). Multidimensional Scaling and Nonstationary Spatial Covariance Modeling, in *Distancia '92, Congres International sur Analyse en Distance*, Rennes, France. eds. S. Joly and G. Le Calve, pp. 425-428.
- [C11] Guttorp, P., Le, N.D., **Sampson, P.D.**, Zidek, J.V. (1994). Using Entropy in the Redesign of an Environmental Monitoring Network, Chap. 9 in *Multivariate Environmental Statistics*, eds. G.P. Patil and C.R. Rao, New York: Elsevier/North-Holland, pp. 175-202.

- [C12] Guttorp, P., and **Sampson, P.D.** (1994). Methods for Estimating Heterogeneous Spatial Covariance Functions with Environmental Applications, Chap. 20 in *Handbook of Statistics*, Vol XII, eds. G.P. Patil and C.R. Rao, New York: Elsevier/North-Holland, pp. 661-689.
- [C13] Monestiez, P., **Sampson, P.D.**, Guttorp, P. (1993). Modeling of Heterogeneous Spatial Correlation Structure by Spatial Deformation, *Cahiers de Géostatistique - Fascicule 3*, Compte Rendu des Journées de Géostatistique, 25-26 Mai 93, Fontainebleau, Ecole Nationale Supérieure des Mines de Paris.
- [C14] Guttorp, P., Meiring, W., and **Sampson, P.D.** (1993). Estimating heterogeneous spatial covariance with environmental applications. *Bull. Intern. Statist. Inst. 49th session*, Contributed Papers vol. 1: 527-528.
- [C15] **Sampson, P.D.**, Bookstein, F.L., Sheehan, F.H., and Bolson, E.L. (1996). Eigenshape Analysis of Left Ventricular Outlines from Contrast Ventriculograms, *Advances in Morphometrics*, Proceedings of a NATO Advanced Study Institute, eds. L.F. Marcus, M. Corti, A. Loy, G. Naylor, and D.E. Slice, Plenum Press, pp. 211-233.
- [C16] **Sampson, P.D.**, Meiring, W., and Guttorp, P. (1994). Spatio-temporal Analysis of Regional Ozone Data for Operational Evaluation of an Air Quality Model, in *Proceedings of the Section on Statistics and the Environment*, American Statistical Association, pp. 46-55.
- [C17] Carmichael Olson, H., Streissguth, A.P., Bookstein, F.L., Barr, H.M., and **Sampson, P.D.** (1994). Developmental Research in Behavioral Teratology: Effects of Prenatal Alcohol Exposure on Child Development. In *Developmental Follow-up: Concepts, Domains, and Methods*, S.L. Friedman and H.C. Haywood, eds., Orlando, FL: Academic Press, pp. 67-112.
- [C18] Meiring, W., Monestiez, P., **Sampson, P.D.**, and Guttorp, P. (1996). Developments in the Modelling of Nonstationary Spatial Covariance Structure from Space-Time Monitoring Data. In *Geostatistics Wollongong '96*, vol. 1, E.Y. Baafi and N. Schofield (eds), Kluwer Academic Publishers, p 162-173.
- [C19] Levy, G., Pu, C., and **Sampson, P.D.** (1996). Massive Data Assimilation/Fusion in Atmospheric Models and Analyses: Statistical, Physical, and Computational Challenges, in *Statistical Challenges and Possible Approaches in the Analysis of Massive Data Sets*, Mathematical Sciences and Statistics Series, National Academy Press, Washington, D.D., pp. 93-102.
(<http://www.nap.edu/readingroom/books/massdata/>).
- [C20] Chalana, V., Haynor, D.R., **Sampson, P.D.**, and Kim, Y. (1997). Parameter estimation in deformable models using Markov Chain Monte Carlo, *Proc. SPIE Conf. Medical Imaging*, vol. 3034, 287-298.
- [C21] Meiring, W., Guttorp, P., and **Sampson, P.D.** (1997). Computational Issues in Fitting Spatial Deformation Models for Heterogeneous Spatial Correlation, in *Computing Science and Statistics: Proceedings of the 29th Symposium on the Interface*, 29(1), (Scott, D.W., ed.), Interface Foundation of North America, Inc.: Fairfax Station, VA 22039-7460, pages 409-417.
- [C22] Monestiez, P., Meiring, W., **Sampson, P.D.**, and Guttorp, P. (1998) Modelling Non-stationary Spatial Covariance Structure from Space-Time Data, in *Precision Agriculture: Spatial and Temporal Variability of Environmental Quality*, Ciba Foundation Vol. 210, eds. Rabbinge, R, Goode, J, Lake, J.V, Bock, G.
- [C23] **Sampson, P.D.** and Guttorp, P. (1999) Operational Evaluation of Air Quality Models, in *Environmental Statistics: Analyzing Data for Environmental Policy*. Novartis Foundation Chichester: Wiley: 33-45.
- [C24] Cox, L.H., Guttorp, P., **Sampson, P.D.**, Caccia, D., and Thompson, M.L. (1999). Preliminary Statistical Examination of the Effects of Uncertainty and Variability on Environmental Regulatory Standards for Ozone (with discussion), in *Environmental Statistics: Analyzing Data for Environmental Policy*. Novartis Foundation. Chichester: Wiley: 122-143.

- [C25] Levy, G., Pu, C., and **Sampson, P.D.** (1999). Statistical, Physical, and Computational Aspects of Massive Data Analysis and Assimilation in Atmospheric Applications, *Journal of Computational and Graphical Statistics*, 8(3), 1-16.
- [C26] **Sampson, P.D.** (2001). Spatial Covariance. In: *Encyclopedia of Environmetrics*, (in press).
- [C27] **Sampson, P.D.**, Damian, D., and Guttorp, P. (2001). Advances in Modeling and Inference for Environmental Processes with Nonstationary Spatial Covariance. In: *GeoENV 2000: Geostatistics for Environmental Applications*, P. Monestiez, D. Allard, R. Froidevaux, eds., Dordrecht: Kluwer, pp. 17-32.
- [C28] **Sampson, P.D.**, Damian, D., Guttorp, P., and Holland, D.M. (2001). Deformation—based nonstationary spatial covariance modelling and network design. In: *Spatio-Temporal Modelling of Environmental Processes*, Col·lecció «Treballs D'Informàtica I Tecnologia», Núm. 10., J. Mateu and F. Montes, eds., Castellon, Spain: Universitat Jaume I, pp. 125-132.

Discussions, reviews

- [D1] **Sampson, P.D.** (1985). Book review of Applied Linear Regression Models by Neter, Wasserman, and Kutner, and Introduction to Linear Regression Analysis by Montgomery and Peck. *Journal of the American Statistical Association*, 80, 487-488.
- [D2] **Sampson, P.D.** (1986). Comment on 'Size and Shape Spaces for Landmark Data in Two Dimensions' by F.L. Bookstein. *Statistical Science*, 1, 229-233.
- [D3] Guttorp, P. and **Sampson, P.D.** (1989). Comment on 'Space-Time Modelling with Long-Memory Dependence: Assessing Ireland's Wind Power Resource' by J. Haslett and A.E. Raftery, *Applied Statistics (JRSS C)*, 38, 32-34.
- [D4] Assuncao, R., and **Sampson, P.D.** (1993). Book review of Introduction to Linear Regression Analysis (2nd Edition) by Montgomery and Peck. *Journal of the American Statistical Association*, 88, 383.
- [D5] Guttorp, P., **Sampson, P.D.**, and Billheimer, D. (1995). Discussion of Multivariate Imputation in Cross-sectional Analysis of Health Effects Associated with Air Pollution by Duddek et al., *Environmental and Ecological Statistics*, 2, 204-206.
- [D6] Guttorp, P., Meiring, W., and **Sampson, P.D.** (1997). Comment on Ozone Exposure and Population Density in Harris County, Texas by Carroll et al., *Journal of the American Statistical Association*, 92, 405-408.

Abstracts and Technical Reports

- Sampson, P.D.** (1974). Regime Behavior in Page Referencing Patterns of Computer Programs. Report No. 28 in Pattern Analysis, Center for Computer and Information Sciences, Division of Applied Mathematics, Brown University.
- Sampson, P.D.** (1977). Comment on 'Cubic Splines as a Special Case of Restricted Least Squares'. Technical Report No. 74, Department of Statistics, University of Michigan.
- Sampson, P.D.** (1980). Statistical Analysis of Shape with Conic Sections and an Elliptical Distribution on a Hypersphere. Technical Report No. 110, Department of Statistics, University of Chicago.
- Sampson, P.D.** (1980). A Family of Elliptical Distributions on a Hypersphere. Technical Report No. 113, Department of Statistics, University of Chicago.
- Sampson, P.D.** and Thompson, M.L. (1983). Fishing with EM for an Estimator of a Salmon Run. In: *Mathematical Models of Renewable Resources*, Vol. II, ed. R. Lamberson, Proceedings of a Conference at the University of Victoria.
- Sampson, P.D.** and Thompson, M.L. Estimation of a Mixed Cohort Salmon Run for a River Fishery, completed manuscript.

- Emel, L.M., **Sampson, P.D.**, and Swindler, D.R. (1984). Variability of the Primate Dental Arch: Shape Analysis using Conic Sections. *American Journal of Physical Anthropology*, 63, 156 (abstract).
- Sampson, P.D.**, Bookstein, F.L., Clarren, S.K., and Streissguth, A.P. (1986). Tensor-Biometric Analysis of Landmark Data in Dysmorphology: An Application to Fetal Alcohol Effects, Technical Report No. 92, Department of Statistics, University of Washington.
- Sampson, P.D.** (1986). Spatial Covariance Estimation by Scaled-Metric Scaling and Biorthogonal Grids, SIMS Tech. Rpt. No. 102, Department of Statistics, University of British Columbia, Vancouver, B.C. (replaced by revision with P. Guttorp, 1992, JASA).
- Guttorp, P., Petkau, A.J., **Sampson, P.D.**, and Zidek, J.V. (1987). Environmental Monitoring: Models, Network Design, and Data Analysis. SIMS Tech. Rpt. No. 107, Dept. of Statistics, Univ. of British Columbia, Vancouver, B.C.
- Leipertz, S. and **Sampson, P.D.** (1987). Shape and Its Change in Pleuronectiform Fishes.
- Sampson, P.D.**, Streissguth, A.P., Vega-Gonzalez, S., Barr, H.M., and Bookstein, F.L. (1987). Predicting Classroom Behavior Ratings by Prenatal Alcohol Exposure: Latent Variable Modeling and Nonlinear Scaling, Technical Report No. 103, Department of Statistics, University of Washington.
- Haynes, M.C., Jenkins, J.R., **Sampson, P.D.**, Edgar, E. (1990). Head Start Research Project: Variations in Service Delivery Models. Year One Report, Washington Research Institute, Seattle, WA.
- Jenkins, J.R., **Sampson, P.D.**, and Edgar, E. (1991). Head Start Research Project: Variations in Service Delivery Models. Year Two Report, Washington Research Institute, Seattle, WA.
- Streissguth, A.P., **Sampson, P.D.**, Carmichael Olson, H., and Barr, H. (1991). Prenatal alcohol vs tobacco as correlates of school performance at 11 years. *Alcoholism: Clinical and Experimental Research* 15(2), 369. (RSA Abstract No. 344).
- Streissguth, A.P., Carmichael Olson, H., **Sampson, P.D.**, and Barr, H. (1991). SRCD Symposium: Prenatal alcohol and drug effects on children's development. Society for Research in Child Development biannual meeting, Seattle WA, April, 1991.
- Streissguth, A.P., Carmichael Olson, H., **Sampson, P.D.**, and Barr, H. (1992). The effects of moderate maternal alcohol use during pregnancy on impaired attention in children and adolescents. 1992 APA Symposium---Impairment of Attention: Causes and Consequences.
- Streissguth, A.P., Carmichael Olson, H., **Sampson, P.D.**, Barr, H.M., Bookstein, F.L., and Mirsky, A.F. (1992). The effects of moderate maternal alcohol use during pregnancy on attention and memory in adolescents, *The Clinical Neuropsychologist*. Abstract for American Psychological Association, 1992 Annual Meeting, Washington, D.C.
- Streissguth, A.P., **Sampson, P.D.**, Bookstein, F.L., Carmichael Olson, H., and Barr, H. (1995). Measurement and analysis of main effects, covariates, and moderators in the behavioral teratology of alcohol, SRCD Symposium, March/April, 1995.
- Streissguth, A.P., **Sampson, P.D.**, Carmichael Olson, H., Thiede, K., Bookstein, F.L., and Barr, H.M. (1995). Latent variable calibration of the effects of prenatal alcohol exposure on adolescent neuropsychological performance, *Journal of the International Neuropsychological Society*, 1(2), 174. (INS Abstract #3).
- Carmichael Olson, H., Streissguth, A.P., **Sampson, P.D.**, Barr, H.M., Bookstein, F.L., Thiede, K. (1995). Prenatal alcohol exposure and behavioral and learning problems in early adolescence, *Journal of the International Neuropsychological Society*, 1(2), 174. (INS Abstract #4).
- Barr, H.M., Streissguth, A.P., Bookstein, F.L., and **Sampson, P.D.** (1995). Attention: Prenatal alcohol and components of vigilance from 4 to 14 years, *Journal of the International Neuropsychological Society*, 1(2), 175. (INS Abstract #5).

- Sampson, P.D.**, Bookstein, F.L., Streissguth, A.P., Carmichael Olson, H., and Barr, H.M. (1995). Detection of individual children with alcohol-related learning and behavioral problems at 14 years: Lifespan trajectories on multiple assessments, *Journal of the International Neuropsychological Society*, 1(2), 175. (INS Abstract #6).
- Streissguth, A.P., Bookstein, F.L., **Sampson, P.D.**, and Barr, H.M. (1995). Prenatal alcohol: Continuities of vigilance performance and attentional behaviors from 4 through 14 years, *Alcoholism: Clinical and Experimental Research*, 9(2 Suppl), 101A. (RSA Annual Scientific Meeting.)
- Sampson, P.D.** (1995). Eigenshape Analysis of the Left Ventricle, Proceedings in Current Issues in *Statistical Shape Analysis*, K.V. Mardia and C.A. Gill, eds., Leeds University Press, p. 159.
- Molinski, K., Krajewski, P., Monestiez, P., and **Sampson, P.D.** (1995). Exploratory analysis of spatial dependencies for air pollution monitoring data, completed manuscript, presented at Environmetrics 94, Ontario.
- Meiring, W., Guttorp, P., and **Sampson, P.D.** (1995). Space-time Covariance Modelling. *Proceedings of the 6th International Meeting on Statistical Climatology*, Galway, Ireland (abstract).
- Connor, P.D., Streissguth, A.P., **Sampson, P.D.**, Bookstein, F.L., Barr, H., and Wegelin, J.A. (1997). Fluency and speed of information processing as related to quantitative neuroimaging in fetal alcohol syndrome and fetal alcohol effects: Preliminary findings, submitted for International Neuropsychological Society 26th Annual Meeting, Honolulu, Feb 1998.
- Wegelin, J.A., **Sampson, P.D.**, Haynor, D., Connor, P.D., Bookstein, F.L., and Streissguth, A.P. (1997). MRI Landmark Analysis of Neuroanatomic Deficits Associated with FAS, extended abstract.
- Meiring, W., Guttorp, P., and **Sampson, P.D.** (1997). On the Validity and Identifiability of Spatial Deformation Models for Heterogeneous Spatial Correlation Structure. (inactive)
- Baer, J.S., Barr, H.M., Bookstein, F.L., **Sampson, P.D.**, & Streissguth, A.P. (1998). Prenatal alcohol exposure and family history of alcoholism in the etiology of adolescent alcohol problems. *Alcoholism: Clinical & Experimental Research*, 22(3), 115A.
- Streissguth, A.P., Connor, P., **Sampson, P.D.**, Barr, H.M., Bookstein, F.L. & Wegelin, J. (1998). Fetal alcohol syndrome: Relationships between CNS structure and function. *Alcoholism: Clinical & Experimental Research*, 22(3), 58A.
- Connor, P.D., Streissguth, A.P., Barr, H.M., **Sampson, P.D.**, & Bookstein, F.L. (1998). Psychiatric symptomatology and characteristic behaviors in adults with fetal alcohol syndrome and fetal alcohol effects. *Alcoholism: Clinical & Experimental Research*, 22(3), 60A.
- Streissguth, A.P., Connor, P., Sampson, P., Barr, H., Bookstein, F. & Wegelin, J. (1998). Structure/function relationships in fetal alcohol syndrome. *Proceedings of the 31st Annual Gatlinburg Conference on Research and Theory in Mental Retardation and Developmental Disabilities*, 21. (For the Symposium: Fetal Alcohol Syndrome: Neuroimaging and Neuropsychological Functioning. 1998 Gatlinburg Conference on Research and Theory in Mental Retardation: Neuroimaging and Developmental Disabilities. Charleston, South Carolina. March 12-14, 1998).
- Bookstein, F.L., Streissguth, A.P., & **Sampson, P.D.** (1998). Midline anomalies of brain shape in fetal alcohol syndrome. *Proceedings of the 31st Annual Gatlinburg Conference on Research and Theory in Mental Retardation and Developmental Disabilities*, 22. (For the Symposium: Fetal Alcohol Syndrome: Neuroimaging and Neuropsychological Functioning. 1998 Gatlinburg Conference on Research and Theory in Mental Retardation: Neuroimaging and Developmental Disabilities. Charleston, South Carolina. March 12-14, 1998.)
- Connor, P., Streissguth, A.P., **Sampson, P.D.**, Bookstein, F.L., Barr, H., Wegelin, J.A. (1998). Fluency and speed of information processing as related to quantitative neuroimaging in fetal alcohol syndrome and fetal alcohol effects: Preliminary findings. *Journal of the International Neuropsychological Society*, 4(1), 21. (INS Abstract #232.)

- Reynolds, J.H., Das, B., **Sampson, P.D.**, and Guttorp, P. (1998). Meteorological Adjustment of Western Washington and Northwest Oregon Surface Ozone Observations with investigation of Trends, NRCSE TRS No. 15, University of Washington.
- Reynolds, J.H., Caccia, D. **Sampson, P.D.**, and Guttorp, P. (1999). Meteorological Adjustment of Chicago, Illinois, Regional Surface Ozone Observations with Investigation of Trends, NRCSE TRS No. 25, University of Washington.
- Sampson, P.D.**, Bookstein, F.L., Clarren, S.K., and Streissguth, A.P. (1999). Facial Effects of Fetal Alcohol Exposure: An Adolescent Follow-up Study, Tech. Rep. No. 99-02, Fetal Alcohol & Drug Unit, University of Washington.
- Streissguth, A.P., Barr, H.M., Connor, P., **Sampson, P.D.**, Bookstein, F.L. (1999). The fetal alcohol syndrome: Relationship between CNS structure and neuropsychological performance. *Proceedings of the Greenwood Genetics Center*, 18, 147-148.
- Barr, H.M., Streissguth, A.P., **Sampson, P.D.**, Bookstein, F.L., Connor, P.D. (1999). Mothers who become binge drinkers: A longitudinal prospective study. *Alcoholism: Clinical & Experimental Research*, 23(5)(suppl), 78A. (From the RSA Symposium, Santa Barbara, 1999).
- Streissguth, A.P., Barr, H.M., **Sampson, P.D.**, Bookstein, F.L., Connor, P.D. (1999). Adult IQ as related to prenatal alcohol exposure, FAS, FAE, ARND, and child IQ in a large sample. *Alcoholism: Clinical & Experimental Research*, 23(5)(suppl), 107A.
- Connor, P.D., Streissguth, A.P., **Sampson, P.D.**, Bookstein, F.L., Barr, H.M. (1999). Executive functioning deficits in adults prenatally exposed to alcohol. *Alcoholism: Clinical & Experimental Research*, 23(5)(suppl), 33A.
- Bookstein, F.L., Streissguth, A.P., **Sampson, P.D.**, Connor, P.D., Barr, H.M. (1999). Corpus callosum shape and neuropsychological deficits in adult males with heavy fetal alcohol exposure. *Alcoholism: Clinical & Experimental Research*, 23(5)(suppl), 28A.
- Sabath DE, Sampson PD, Andrews J, et al. (1999). Comparison of automated and manual white cell differential counts on specimens from markedly leukopenic patients. *Blood* 94(10): 4839 Part 2 Suppl. 1.
- Connor, P.D., Streissguth, A.P., **Sampson, P.D.**, Bookstein, F.L., Barr, H.M., Toth, S.K. (2000). Motor coordination in adult males with fetal alcohol syndrome and fetal alcohol effects. *Twenty-eighth Annual Meeting of the International Neuropsychological Society (INS)*, Denver, CO, February 9-12, 2000.
- Connor, P.D., Streissguth, A.P., Sampson, P.D., Bookstein, F.L., Barr, H.M., Toth, S.K. (2000) Motor coordination in adult males with fetal alcohol syndrome and fetal alcohol effects. *Journal of the International Neuropsychological Society*, 6(2). 237-238.
- Bookstein, F.L., Sampson, P.D., Connor, P.D., & Streissguth, A.P. (2001). Morphometric diagnosis of fetal alcohol spectrum disorders by callosal shape. *Teratology*, 63(6), 251.
- Bookstein, F.L., Sampson, P.D., Connor, P.D., & Streissguth, A.P. (2001). Excess variance of subcortical brain shape in fetal alcohol spectrum disorders: An analysis by landmark location data. *Teratology*, 63(6), 251.
- Baer, J.S., Sampson, P.D., Barr, H.M., Connor, P.D., & Streissguth, A.P. (2001). Prenatal alcohol exposure and young adult drinking: A 21-year longitudinal analysis. *Alcoholism: Clinical & Experimental Research*, 25(5 Supplement), 123A.
- Streissguth, A.P., Barr, H.M., Sampson, P.D., Connor, P.D., & Bookstein, F.L. (2001). Young adult outcomes of prenatal alcohol exposure from a large population study. *Alcoholism: Clinical & Experimental Research*, 36(5), 437.

Streissguth, A.P., Sampson, P.D., Bookstein, F.L., Connor, P.D., & Barr, H.M. (2002). 21-year dose-response effects of prenatal alcohol exposure on cognition. RSA/ISBRA Scientific Meeting, San Francisco, June 28–July 3, 2002.

Connor, P.D., Bookstein, F.L., Barr, H.M., Sampson, P.D., & Streissguth, A.P. (2002). Assessing prenatal alcohol damage: Test of nonverbal intelligence-2 (TONI-2) vs. WAIS-R. RSA/ISBRA Scientific Meeting, San Francisco, June 28–July 3, 2002.

Papers Submitted or in Preparation:

Streissguth, A.P., Bookstein, F.L., Barr, H.M., Sampson, P.D., O'Malley, K., Kogan Young, J. (submitted).
Secondary disabilities in patients with fetal alcohol syndrome and fetal alcohol effects.

Streissguth AP, Sampson PD, Connor PD, Barr HM, Bookstein, FL. Prenatal alcohol effects on laboratory assessments of neurocognitive function at 21 years of age.

Streissguth AP, Connor PD, Sampson PD, Barr HM, Bookstein FL. Prenatal alcohol-related deficits in motor function at 4 and 25 years of age.

Streissguth, A.P., Sampson, P.D., Bookstein, F.L., Barr, H.B., and Connor, P.D. (in prep).
Neuropsychological and Neuromotor deficits in a comparative study of FAS, FAE, and normal subjects.

Sampson, P.D., and Guttorp, P. Air quality monitoring network design using Pareto Optimality methods for multiple objective criteria

Bruno F., Guttorp P., Sampson PD. Nonseparable space-time models for air quality. (submitted).