

Stanford



Paul Switzer

Professor of Statistics and of Environmental Earth System Science, Emeritus

Curriculum Vitae available Online

Bio

BIO

Dr. Switzer's research interests are in the development of statistical tools for the environmental sciences. Recent research has focused on the interpretation of environmental monitoring data, design of monitoring networks, detection of time trends in environmental and climatic parameters, modeling of human exposure to pollutants, statistical evaluation of numerical climate models and error estimation for spatial mapping.

ACADEMIC APPOINTMENTS

- Emeritus Faculty, Acad Council, Statistics
- Affiliate, Stanford Woods Institute for the Environment

Teaching

COURSES

2021-22

- Consulting Workshop: STATS 390 (Aut)

2020-21

- Consulting Workshop: STATS 390 (Aut)

2019-20

- Consulting Workshop: STATS 390 (Aut)

2018-19

- Consulting Workshop: STATS 390 (Aut)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Dan Kluger

Publications

PUBLICATIONS

- Reassessing the relationship between ozone and short-term mortality in US urban communities *INHALATION TOXICOLOGY*
Smith, R. L., Xu, B., Switzer, P.
2009; 21: 37-61

- **Observed 1970-2005 Cooling of Summer Daytime Temperatures in Coastal California** *JOURNAL OF CLIMATE*
Lebassi, B., Gonzalez, J., Fabris, D., Maurer, E., Miller, N., Milesi, C., Switzer, P., Bornstein, R.
2009; 22 (13): 3558-3573
- **Outdoor air pollution in close proximity to a continuous point source** *ATMOSPHERIC ENVIRONMENT*
Klepeis, N. E., Gabel, E. B., Ott, W. R., Switzer, P.
2009; 43 (20): 3155-3167
- **Effect of interior door position on room-to-room differences in residential pollutant concentrations after short-term releases** *ATMOSPHERIC ENVIRONMENT*
Ferro, A. R., Klepeis, N. E., Ott, W. R., Nazaroff, W. W., Hildemann, L. M., Switzer, P.
2009; 43 (3): 706-714
- **Estimating disease prevalence using census data** *EPIDEMIOLOGY AND INFECTION*
Choy, M., Switzer, P., de Martel, C., Parsonnet, J.
2008; 136 (9): 1253-1260
- **Air change rates of motor vehicles and in-vehicle pollutant concentrations from secondhand smoke** *JOURNAL OF EXPOSURE SCIENCE AND ENVIRONMENTAL EPIDEMIOLOGY*
Ott, W., Klepeis, N., Switzer, P.
2008; 18 (3): 312-325
- **Error analysis for the evaluation of model performance: rainfall-runoff event summary variables** *HYDROLOGICAL PROCESSES*
Pebesma, E. J., Switzer, P., Loague, K.
2007; 21 (22): 3009-3024
- **Real-time measurement of outdoor tobacco smoke particles** *JOURNAL OF THE AIR & WASTE MANAGEMENT ASSOCIATION*
Klepeis, N. E., Ott, W. R., Switzer, P.
2007; 57 (5): 522-534
- **Stochastic space-time regional rainfall modeling adapted to historical rain gauge data** *WATER RESOURCES RESEARCH*
Zhang, Z., Switzer, P.
2007; 43 (3)
- **Evaluating detection of an inhalational anthrax outbreak** *EMERGING INFECTIOUS DISEASES*
Buckeridge, D. L., Owens, D. K., Switzer, P., Frank, J., Musen, M. A.
2006; 12 (12): 1942-1949
- **Filter-based classification of training image patterns for spatial simulation** *MATHEMATICAL GEOLOGY*
Zhang, T., Switzer, P., Journel, A.
2006; 38 (1): 63-80
- **An evaluation model for syndromic surveillance: assessing the performance of a temporal algorithm.** *MMWR. Morbidity and mortality weekly report*
Buckeridge, D. L., Switzer, P., Owens, D., SIEGRIST, D., Pavlin, J., Musen, M.
2005; 54: 109-115
- **Error analysis for the evaluation of model performance: rainfall-runoff event time series data** *HYDROLOGICAL PROCESSES*
Pebesma, E. J., Switzer, P., Loague, K.
2005; 19 (8): 1529-1548
- **Merging prior structural interpretation and local data: The Bayes updating of multiple-point statistics** *Annual Conference of the International-Association-for-Mathematical-Geology*
Zhang, T., Switzer, P., Journel, A.
YORK UNIV.2005: 615-620
- **Sequential conditional simulation using classification of local training patterns** *7th International Geostatistics Congress*
Zhang, T., Switzer, P., Journel, A.
SPRINGER.2005: 265-273
- **Mortality displacement and distributed lag models** *INHALATION TOXICOLOGY*

- Roberts, S., Switzer, P.
2004; 16 (14): 879-888
- **Estimation of geological attributes from a well log: An application of hidden Markov chains** *MATHEMATICAL GEOLOGY*
Eidsvik, J., Mukerji, T., Switzer, P.
2004; 36 (3): 379-397
 - **Analytical solutions to compartmental indoor air quality models with application to environmental tobacco smoke concentrations measured in a house** *JOURNAL OF THE AIR & WASTE MANAGEMENT ASSOCIATION*
Ott, W. R., Klepeis, N. E., Switzer, P.
2003; 53 (8): 918-936
 - **An analytic framework for space-time aberrancy detection in public health surveillance data.** *AMIA ... Annual Symposium proceedings / AMIA Symposium. AMIA Symposium*
Buckeridge, D. L., Musen, M. A., Switzer, P., Crubézy, M.
2003: 120-124
 - **Graphical assessment of dependence: Is a picture worth 100 tests?** *AMERICAN STATISTICIAN*
Fisher, N. I., Switzer, P.
2001; 55 (3): 233-239
 - **The National Human Activity Pattern Survey (NHAPS): a resource for assessing exposure to environmental pollutants** *JOURNAL OF EXPOSURE ANALYSIS AND ENVIRONMENTAL EPIDEMIOLOGY*
Klepeis, N. E., Nelson, W. C., Ott, W. R., Robinson, J. P., Tsang, A. M., Switzer, P., Behar, J. V., Hern, S. C., Engelmann, W. H.
2001; 11 (3): 231-252
 - **Untitled** *JOURNAL OF THE AIR & WASTE MANAGEMENT ASSOCIATION*
Switzer, P.
2001; 51 (3): 322-323
 - **Multiple simulation of spatial fields** *4th International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences*
Switzer, P.
DELFT UNIV PRESS DUP SCI.2000: 629–635
 - **Investigations of the proximity effect for pollutants in the indoor environment** *JOURNAL OF EXPOSURE ANALYSIS AND ENVIRONMENTAL EPIDEMIOLOGY*
McBride, S. J., Ferro, A. R., Ott, W. R., Switzer, P., Hildemann, L. M.
1999; 9 (6): 602-621
 - **Human exposure to particles due to indoor cleaning activities** *7th International Air Pollution Conference*
Ferro, A., Hildemann, L. M., McBride, S. J., Ott, W., Switzer, P.
WIT PRESS.1999: 487–496
 - **Differential exposure misclassification in case control studies of environmental tobacco smoke and lung cancer** *JOURNAL OF CLINICAL EPIDEMIOLOGY*
Levois, M., Switzer, P.
1998; 51 (1): 37-54
 - **Particle concentrations inside a tavern before and after prohibition of smoking: Evaluating the performance of an indoor air quality model - Response** *JOURNAL OF THE AIR & WASTE MANAGEMENT ASSOCIATION*
Ott, W., Switzer, P.
1997; 47 (4): 452-454
 - **Particle concentrations inside a tavern before and after prohibition of smoking: Evaluating the performance of an indoor air quality model** *JOURNAL OF THE AIR & WASTE MANAGEMENT ASSOCIATION*
Ott, W., Switzer, P., Robinson, J.
1996; 46 (12): 1120-1134
 - **A multiple-smoker model for predicting indoor air quality in public lounges** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
Klepeis, N. E., Ott, W. R., Switzer, P.
1996; 30 (9): 2813-2820

- **Daily exposure to environmental tobacco smoke: Smokers vs nonsmokers in California** *AMERICAN JOURNAL OF PUBLIC HEALTH*
Robinson, J. P., Switzer, P., Ott, W.
1996; 86 (9): 1303-1305
- **Ambient sulfate concentrations near grand canyon as a function of fluctuating loads at the Mohave Power Project: An exploratory analysis of an atmospheric experiment** *ATMOSPHERIC ENVIRONMENT*
Switzer, P., Enger, L., HOFFER, T. E., Koracin, D., White, W. H.
1996; 30 (14): 2551-2564
- **Time trend estimation for a geographic region** *JOURNAL OF THE AMERICAN STATISTICAL ASSOCIATION*
Solna, K., Switzer, P.
1996; 91 (434): 577-589
- **SPATIAL INTERPOLATION ERRORS FOR MONITORING DATA** *JOURNAL OF THE AMERICAN STATISTICAL ASSOCIATION*
Host, G., Omre, H., Switzer, P.
1995; 90 (431): 853-861
- **CARBON-MONOXIDE EXPOSURES INSIDE AN AUTOMOBILE TRAVELING ON AN URBAN ARTERIAL HIGHWAY** *JOURNAL OF THE AIR & WASTE MANAGEMENT ASSOCIATION*
Ott, W., Switzer, P., Willits, N.
1994; 44 (8): 1010-1018
- **ENVIRONMENTAL TOBACCO-SMOKE AND LUNG-CANCER RISK IN NONSMOKING WOMEN** *JOURNAL OF THE NATIONAL CANCER INSTITUTE*
Switzer, P.
1993; 85 (9): 749-750
- **A COMMENT ON THE COEFFICIENT OF DETERMINATION FOR BINARY RESPONSES - COMMENT** *AMERICAN STATISTICIAN*
Switzer, P.
1992; 46 (3): 243-243
- **Averaging time modeling of exposure simulation with application to the El Camino Real vehicle data.** *Journal of exposure analysis and environmental epidemiology*
Switzer, P., Ott, W. R., Willits, N. H.
1991; 1 (1): 109-121
- **AN ANALYSIS OF HOURLY DEPOSITION DATA** *CANADIAN JOURNAL OF STATISTICS-REVUE CANADIENNE DE STATISTIQUE*
Switzer, P.
1988; 16 (1): 39-50
- **A STATISTICAL-METHOD FOR ESTIMATING RATES OF SOIL DEVELOPMENT AND AGES OF GEOLOGIC DEPOSITS - A DESIGN FOR SOIL-CHRONOSEQUENCE STUDIES** *MATHEMATICAL GEOLOGY*
Switzer, P., Harden, J. W., MARK, R. K.
1988; 20 (1): 49-61
- **A TRANSFORMATION FOR ORDERING MULTISPECTRAL DATA IN TERMS OF IMAGE QUALITY WITH IMPLICATIONS FOR NOISE REMOVAL** *IEEE TRANSACTIONS ON GEOSCIENCE AND REMOTE SENSING*
Green, A. A., Berman, M., Switzer, P., Craig, M. D.
1988; 26 (1): 65-74
- **ORDERING OF TIME DIFFERENCE DATA FROM MULTISPECTRAL IMAGERY** *REMOTE SENSING OF ENVIRONMENT*
Switzer, P., Ingebritsen, S. E.
1986; 20 (1): 85-94
- **PROJECTION PURSUIT - DISCUSSION** *ANNALS OF STATISTICS*
Switzer, P.
1985; 13 (2): 515-517
- **VARIABILITY OF ELEMENTAL CONCENTRATIONS IN POWER-PLANT ASH** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
Holcombe, L. J., Eynon, B. P., Switzer, P.

1985; 19 (7): 615-620

● **CHI-PLOTS FOR ASSESSING DEPENDENCE *BIOMETRIKA***

Fisher, N. I., Switzer, P.
1985; 72 (2): 253-265

● **THE EFFECTS OF ADDITIVE RADIANCE TERMS ON RATIOS OF LANDSAT DATA *PHOTOGAMMETRIC ENGINEERING AND REMOTE SENSING***

KOWALIK, W. S., Lyon, R. J., Switzer, P.
1983; 49 (5): 659-669

● **NONPARAMETRIC GEOSTATISTICS - HENLEY,S (Book Review) *JOURNAL OF THE AMERICAN STATISTICAL ASSOCIATION***

Book Review Authored by: Switzer, P.
1983; 78 (382): 510-510

● **A PRIOR PROBABILITY METHOD FOR SMOOTHING DISCRIMINANT-ANALYSIS CLASSIFICATION MAPS *JOURNAL OF THE INTERNATIONAL ASSOCIATION FOR MATHEMATICAL GEOLOGY***

Switzer, P., KOWALIK, W. S., Lyon, R. J.
1982; 14 (5): 433-444

● **ESTIMATION OF ATMOSPHERIC PATH-RADIANCE BY THE COVARIANCE-MATRIX METHOD *PHOTOGAMMETRIC ENGINEERING AND REMOTE SENSING***

Switzer, P., KOWALIK, W. S., Lyon, R. J.
1981; 47 (10): 1469-1476

● **SOME CHALLENGING APPLICATIONS OF STATISTICAL-METHODS IN THE EARTH SCIENCES *JOURNAL OF THE INTERNATIONAL ASSOCIATION FOR MATHEMATICAL GEOLOGY***

Switzer, P.
1980; 12 (5): 417-423

● **EXTENSIONS OF LINEAR DISCRIMINANT-ANALYSIS FOR STATISTICAL CLASSIFICATION OF REMOTELY SENSED SATELLITE IMAGERY *JOURNAL OF THE INTERNATIONAL ASSOCIATION FOR MATHEMATICAL GEOLOGY***

Switzer, P.
1980; 12 (4): 367-376

● **RESOLVING THE PERCENTAGE OF COMPONENT TERRAINS WITHIN SINGLE RESOLUTION ELEMENTS *PHOTOGAMMETRIC ENGINEERING AND REMOTE SENSING***

Marsh, S. E., Switzer, P., KOWALIK, W. S.
1980; 46 (8): 1079-1086

● **STATISTICAL CONSIDERATIONS IN NETWORK DESIGN *WATER RESOURCES RESEARCH***

Switzer, P.
1979; 15 (6): 1712-1716

● **STATISTICAL-ANALYSIS OF SPATIAL PATTERN - BARTLETT,MS (Book Review) *JOURNAL OF THE AMERICAN STATISTICAL ASSOCIATION***

Book Review Authored by: Switzer, P.
1978; 73 (363): 684-684

● **DISTRIBUTION OF REDSHIFTS OF QUASARS AND RELATED OBJECTS *ASTROPHYSICAL JOURNAL***

Knight, J. W., Sturrock, P. A., Switzer, P.
1976; 203 (2): 286-290

● **GEOMETRICAL MEASURES OF SMOOTHNESS OF RANDOM FUNCTIONS *JOURNAL OF APPLIED PROBABILITY***

Switzer, P.
1976; 13 (1): 86-95

● **CONFIDENCE PROCEDURES FOR 2-SAMPLE PROBLEMS *BIOMETRIKA***

Switzer, P.
1976; 63 (1): 13-25

● **MODEL RELATING UNDETECTED GEOMAGNETIC POLARITY INTERVALS TO OBSERVED RATE OF REVERSALS *JOURNAL OF GEOPHYSICAL RESEARCH***

- TACIER, J. D., Switzer, P., Cox, A.
1975; 80 (32): 4446-4448
- **Karyometry in the estimation of nuclear population in pulmonary carcinomas.** *Journal of the National Cancer Institute*
Switzer, P., GERSTL, B., Greenspoon, J.
1974; 52 (6): 1699-1704
 - **MORPHOMETRIC STUDY OF PULMONARY CANCER** *CANCER RESEARCH*
GERSTL, B., Switzer, P., Yesner, R.
1974; 34 (1): 248-254
 - **KARYOMETRY IN ESTIMATION OF NUCLEAR POPULATION IN PULMONARY CARCINOMAS** *JOURNAL OF THE NATIONAL CANCER INSTITUTE*
Switzer, P., GERSTL, B., GREENSPO, J.
1974; 52 (6): 1699-1704
 - **PROPOSED SAMPLING CONSTANT FOR USE IN GEOCHEMICAL ANALYSIS** *TALANTA*
INGAMELL, C. O., Switzer, P.
1973; 20 (6): 547-568
 - **STATISTICAL ANALYSIS OF GEOLOGICAL DATA .2. KOCH,GS AND LINK,RF (Book Review)** *JOURNAL OF THE AMERICAN STATISTICAL ASSOCIATION*
Book Review Authored by: Switzer, P.
1973; 68 (341): 243-243
 - **PERIODICITY IN RADIOFREQUENCY SPECTRUM OF PULSAR CP 0328** *ASTROPHYSICAL JOURNAL*
Sturrock, P. A., Switzer, P., Vallee, J., Antiochos, S.
1972; 171 (1): L27-?
 - **Possible high-frequency modulation of light from the Crab pulsar.** *Nature*
Sturrock, P. A., Bracewell, R. N., Switzer, P.
1971; 229 (5281): 186-187
 - **POSSIBLE HIGH-FREQUENCY MODULATION OF LIGHT FROM CRAB PULSAR** *NATURE*
Sturrock, P. A., BRACEWEL, R. N., Switzer, P.
1971; 229 (5281): 186-?
 - **LONGITUDE DISTRIBUTION OF SOLAR FLARES** *SOLAR PHYSICS*
Fung, P. C., Sturrock, P. A., Switzer, P., VANHOVEN, G.
1971; 18 (1): 90-?