References

Azzalini, A. (1996). *Statistical Inference: Based on the Likelihood*, Chapman and Hall, London.

Baddeley, A. and Vedel Jensen, E. B. (2005). *Stereology for Statisticians*, Chapman and Hall/CRC, Boca Raton.

Banerjee, S. (2005). On geodetic distance computations in spatial modeling, *Biometrics* **61**: 617–625.

Banerjee, S., Wall, M. M. and Carlin, B. P. (2003). Frailty modelling for spatially correlated survival data, with application to infant mortality in Minnesota, *Biostatistics* **4**: 123–142.

Barry, J., Crowder, M. and Diggle, P. J. (1997). Parametric estimation using the variogram, *Technical Report ST-97-06*, Dept. Maths and Stats, Lancaster University, Lancaster, UK.

Bartlett, M. S. (1955). *Stochastic Processes*, Cambridge University Press.

Bartlett, M. S. (1964). A note on spatial pattern, *Biometrics* **20**: 891–892.

Bartlett, M. S. (1967). Inference and stochastic process, *Journal of the Royal Statistical Society, Series A* **130**: 457–478.

Bellhouse, D. R. (1977). Some optimal designs for sampling in two dimensions, *Biometrika* **64**: 605–611.

Ben-jamma, F., Marino, M. and Loaiciga, H. (1995). Sampling design for contaminant distribution in lake sediments, *Journal of Water Resources Planning and Managmeent* **121**: 71–79.

Benes, V., Bodlak, K., Møller, J. and Waagepetersen, R. P. (2001). Bayesian analysis of log gaussian cox process models for disease mapping, *Technical Report Research Report R-02-2001*, Department of Mathematical Sciences, Aalborg University.

Berger, J. O., De Oliveira, V. and Sansó, B. (2001). Objective Bayesian analysis of spatially correlated data, *Journal of the American Statistical Association* **96**: 1361–1374.

Besag, J. E. (1974). Spatial interaction and the statistical analysis of lattice systems (with discussion), *Journal of the Royal Statistical Society, Series B* **36**: 192–225.

Besag, J. and Mondal, D. (2005). First-order intrinsic autoregressions and the de Wijs process, *Biometrika* **92**: 909–920.

Boussinesq, M., Gardon, J., Kamgno, J., Pion, S. D., Gardon-Wendel, N. and Chippaux, J. P. (2001). Relationships between the prevalence and intensity of *loa loa* infection in the Central province of Cameroon, *Annals of Tropical Medicine and Parasitology* **95**: 495–507.

Bowman, A. W. and Azzalini, A. (1997). *Applied Smoothing Techniques for Data Analysis*, Oxford University Press.

Box, G. E. P. and Cox, D. R. (1964). An analysis of transformations (with discussion), *Journal of the Royal Statistical Society, Series B* **26**: 211–252.

Breslow, N. E. and Clayton, D. G. (1993). Approximate inference in generalized linear mixed models, *Journal of the American Statistical Association* **88**: 9–25.

Brix, A. and Diggle, P. J. (2001). Spatio-temporal prediction for log-Gaussian Cox processes, *Journal of the Royal Statistical Society, Series B* **63**: 823–841.

Brix, A. and Møller, J. (2001). Space-time multitype log Gaussian Cox processes with a view to modelling weed data, *Scandinavian Journal of Statistics* **28**: 471–488.

Capeche, C. L. e. (1997). Caracterização pedológica da fazenda angra - pesagro/rio - estação experimental de campos (rj), *Informação, globalização, uso do solo*, Vol. 26, Congresso Brasileiro de Ciência do Solo, Embrapa/SBCS, Rio de Janeiro.

Chilès, J.-P. and Delfiner, P. (1999). *Geostatistics: Modeling Spatial Uncertainty*, Wiley, New York.

Christensen, O. (2001). *Methodology and applications in non-linear model based geostatistics*, PhD thesis, Aalborg University, Denmark.

Christensen, O. F. (2004). Monte Carlo maximum likelihood in model-based geostatistics, *Journal of Computational and Graphical Statistics* **13**: 702–718.

Christensen, O. F., Møller, J. and Waagepetersen, R. P. (2001). Geometric ergodicity of Metropolis-Hastings algorithms for conditional simulation in generalised linear mixed models, *Methodology and Computing in Applied Probability* **3**: 309–327.

Christensen, O. F. and Ribeiro Jr., P. J. (2002). geoRglm: a package for generalised linear spatial models, *R-NEWS* pp. 26–28.
*http://cran.R-project.org/doc/Rnews

Christensen, O. F., Roberts, G. O. and Skøld, M. (2006). Robust Markov chain Monte Carlo methods for spatial generalized linear mixed models, *Journal of Computational and Graphical Statistics* **15**: 1–17.

Christensen, O. F. and Waagepetersen, R. P. (2002). Bayesian prediction of spatial count data using generalized linear mixed models, *Biometrics* **58**: 280–286.

Cleveland, W. S. (1979). Robust locally weighted regression and smoothing scatterplots, *Journal of the American Statistical Association* **74**: 829–836.

Cleveland, W. S. (1981). Lowess: A program for smoothing scatterplots by robust locally weighted regression, *American Statistician* **35**: 54.

Cochran, W. G. (1977). *Sampling Techniques*, second edn, Wiley, New York.

Cox, D. R. (1955). Some statistical methods related with series of events (with discussion), *Journal of the Royal Statistical Society, Series B* **17**: 129–157.

220   References

Cox, D. R. (1972). Regression models and life tables (with discussion), *Journal of the Royal Statistical Society, Series B* **34**: 187–220.

Cox, D. R. and Hinkley, D. V. (1974). *Theoretical Statistics*, Chapman and Hall, London.

Cox, D. R. and Miller, H. D. (1965). *The Theory of Stochastic Processes*, Methuen, London.

Cox, D. R. and Oakes, D. (1984). *Analysis of Survival Data*, Chapman and Hall, London.

Cressie, N. (1985). Fitting variogram models by weighted least squares, *Mathematical Geology* **17**: 563–586.

Cressie, N. (1993). *Statistics for Spatial Data*, Wiley, New York.

Cressie, N. and Hawkins, D. M. (1980). Robust estimation of the variogram, *Mathematical Geology* **12**: 115–125.

Cressie, N. and Wikle, C. K. (1998). The variance-based cross-variogram: you can add apples and oranges, *Mathematical Geology* **30**: 789–799.

Dalgaard, P. (2002). *Introductory Statistics with R*, Springer.

Davis, J. C. (1972). *Statistics and Data Analysis in Geology*, second edn, Wiley, New York.

De Oliveira, V., Kedem, B. and Short, D. A. (1997). Bayesian prediction of transformed Gaussian random fields, *Journal of the American Statistical Association* **92**: 1422–1433.

De Wijs, H. J. (1951). Statistics of ore distribution. Part I. Frequency distribution of assay values, *Journal of the Royal Netherlands Geological and Mining Society* **13**: 365–375.

De Wijs, H. J. (1953). Statistics of ore distribution. Part II. Theory of binomial distributions applied to sampling and engineering problems, *Journal of the Royal Netherlands Geological and Mining Society* **15**: 12–24.

Diggle, P. J. (2003). *Statistical Analysis of Spatial Point Patterns*, second edn, Edward Arnold, London.

Diggle, P. J., Harper, L. and Simon, S. (1997). Geostatistical analysis of residual contamination from nuclear weapons testing, *in* V. Barnett and F. Turkman (eds), *Statistics for the Environment 3: pollution assessment and control*, Wiley, Chichester, pp. 89–107.

Diggle, P. J., Heagerty, P., Liang, K. Y. and Zeger, S. L. (2002). *Analysis of Longitudinal Data*, second edn, Oxford University Press, Oxford.

Diggle, P. J. and Lophaven, S. (2006). Bayesian geostatistical design, *Scandinavian Journal of Statistics* **33**: 55–64.

Diggle, P. J., Moyeed, R. A., Rowlingson, B. and Thomson, M. (2002). Childhood malaria in the Gambia: a case-study in model-based geostatistics, *Applied Statistics* **51**: 493–506.

Diggle, P. J., Ribeiro Jr, P. J. and Christensen, O. F. (2003). An introduction to model-based geostatistics, *in* J. Møller (ed.), *Spatial Statistics and Computational Methods*, Springer, pp. 43–86.

Diggle, P. J., Tawn, J. A. and Moyeed, R. A. (1998). Model based geostatistics (with discussion), *Applied Statistics* **47**: 299–350.

Diggle, P. J., Thomson, M. C., Christensen, O. F., Rowlingson, B., Obsomer, V., Gardon, J., Wanji, S., Takougang, I., Enyong, P., Kamgno, J., Remme, J., Boussinesq, M. and Molyneux, D. H. (2006). Spatial modeling and prediction of *loa loa* risk: decision making under uncertainty, *International Journal of Epidemiology (submitted)* .

Diggle, P., Rowlingson, B. and Su, T. (2005). Point process methodology for on-line spatio-temporal disease surveillance, *Environmetrics* **16**: 423–434.

Draper, N. and Smith, H. (1981). *Applied Regression Analysis*, second edn, Wiley, New York.

Dubois, G. (1998). Spatial interpolation comparison 97: foreword and introduction, *Journal of Geographic Information and Decision Analysis* **2**: 1–10.

Duchon, J. (1977). Splines minimising rotation-invariant semi-norms in Sobolev spaces, *in* W. Schempp and K. Zeller (eds), *Constructive Theory of Functions of Several Variables*, Springer, pp. 85–100.

Fedorov, V. V. (1989). Kriging and other estimators of spatial field characteristics, *Atmospheric Environment* **23**: 175–184.

Gelfand, A. E., Schmidt, A. M., Banerjee, S. and Sirmans, C. F. (2004). Nonstationary multivariate process modeling through spatially varying coregionalization (with discussion), *Test* **13**: 263–312.

Gelman, A., Carlin, J. B., Stern, H. S. and Rubin, D. B. (2003). *Bayesian Data Analysis*, second edn, Chapman and Hall, London.

Geyer, C. J. (1992). Practical Markov chain Monte Carlo (with discussion), *Statistical Science* **7**: 473–511.

Geyer, C. J. (1994). On the convergence of Monte Carlo maximum likelihood calculations, *Journal of the Royal Statistical Society, Series B* **56**: 261–274.

Geyer, C. J. and Thompson, E. A. (1992). Constrained Monte Carlo maximum likelihood for dependent data (with discussion), *Journal of the Royal Statistical Society, Series B* **54**: 657–699.

Gilks, W. R., Richardson, S. and Spiegelhalter, D. J. (eds) (1996). *Markov Chain Monte Carlo in Practice*, Chapman and Hall, London.

Gneiting, T. (1997). *Symmetric Positive Definite Functions with Applications in Spatial Statistics*, PhD thesis, University of Bayreuth.

Gneiting, T., Sasvári, Z. and Schlather, M. (2001). Analogues and correspondences between variograms and covariance functions, *Advances in Applied Probability* **33**.

Gotway, C. A. and Stroup, W. W. (1997). A generalized linear model approach to spatial data analysis and prediction, *Journal of Agricultural, Biological and Environmental Statistics* **2**: 157–178.

Greig-Smith, P. (1952). The use of random and contiguous quadrats in the study of the structure of plant communities, *Annals of Botany* **16**: 293–316.

Guttorp, P., Meiring, W. and Sampson, P. D. (1994). A space-time analysis of of ground-level ozone data, *Environmetrics* **5**: 241–254.

Guttorp, P. and Sampson, P. D. (1994). Methods for estimating heterogeneous spatial covariance functions with environmental applications, *in* G. P. Patil and C. R. Rao (eds), *Handbook of Statistics X11: Environmental Statistics*, Elsevier/North Holland, New York, pp. 663–690.

Handcock, M. S. and Wallis, J. R. (1994). An approach to statistical spatial tempo-ral modeling of meteorological fields (with discussion), *Journal of the American Statistical Association* **89**: 368–390.

Handcock, M. and Stein, M. (1993). A Bayesian analysis of kriging, *Technometrics* **35**: 403–410.

Harville, D. A. (1974). Bayesian inference for variance components using only error contrasts, *Biometrika* **61**: 383–385.

Hastie, T. (1996). Pseudosplines, *Journal of the Royal Statistical Society, Series B* **58**: 379–396.

Hastings, W. K. (1970). Monte Carlo sampling methods using Markov chains and their applications, *Biometrika* **57**: 97–109.

Henderson, R., Shimakura, S. E. and Gorst, D. (2002). Modelling spatial variation in leukaemia survival data, *Journal of the American Statistical Association* **97**: 965–972.

Higdon, D. (1998). A process-convolution approach to modelling temperatures in the North Atlantic ocean (with discussion), *Environmental and Ecological Statistics* **5**: 173–190.

Higdon, D. (2002). Space and space-time modelling using process convolutions, *in* C. Anderson, V. Barnett, P. C. Chatwin and A. H. El-Shaarawi (eds), *Quantitative Methods for Current Environmental Issues*, Wiley, Chichester, pp. 37–56.

Hougaard, P. (2000). *Analysis of Multivariate Survival Data*, Springer.

Journel, A. G. and Huijbregts, C. J. (1978). *Mining Geostatistics*, Academic Press, London.

Kammann, E. E. and Wand, M. P. (2003). Geoadditive models, *Applied Statistics* **52**: 1–18.

Kent, J. T. (1989). Continuity properties of random fields, *Annals of Probability* **17**: 1432–1440.

Kitanidis, P. K. (1978). Parameter uncertainty in estimation of spatial functions: Bayesian analysis, *Water Resources Research* **22**: 499–507.

Kitanidis, P. K. (1983). Statistical estimation of polynomial generalized covariance functions and hydrological applications, *Water Resources Research* **22**: 499–507.

Knorr-Held, L. and Best, N. (2001). A shared component model for detecting joint and selective clustering of two diseases, *Journal of the Royal Statistical Society, Series A* **164**: 73–85.

Kolmogorov, A. N. (1941). Interploation und extrapolation von stationären zufäligen folgen, *Izv. Akad. Nauk SSSR* **5**: 3–14.

Krige, D. G. (1951). A statistical approach to some basic mine valuation problems on the Witwatersrand, *Journal of the Chemical, Metallurgical and Mining Society of South Africa* **52**: 119–139.

Lark, R. M. (2002). Optimized spatial sampling of soil for estimation of the variogram by maximum likelihood, *Geoderma* **105**: 49–80.

Laslett, G. M. (1994). Kriging and splines: an empirical comparison of their predictive performance in some applications, *Journal of the American Statistical Association* **89**: 391–409.

Lee, Y. and Nelder, J. A. (1996). Hierarchical generalized linear models (with discussion), *Journal of the Royal Statistical Society, Series B* **58**: 619–678.

Lee, Y. and Nelder, J. A. (2001). Modelling and analying correlated non-normal data., *Statistical Modelling* **1**: 3–16.

Li, Y. and Ryan, L. (2002). Modelling spatial survival data using semiparametric frailty models, *Biometrics* **58**: 287–297.

Liang, K. Y. and Zeger, S. L. (1986). Longitudinal data analysis using generalized linear models, *Biometrika* **73**: 13–22.

Mardia, K. V. and Watkins, A. J. (1989). On multimodality of the likelihood in the spatial linear model, *Biometrika* **76**: 289–296.

Matérn, B. (1960). Spatial Variation, *Technical report*, Statens Skogsforsningsinstitut, Stockholm.

Matérn, B. (1986). *Spatial Variation*, second edn, Springer, Berlin.

Matheron, G. (1963). Principles of geostatistics, *Economic Geology* **58**: 1246–1266.

Matheron, G. (1971a). Random set theory and its application to stereology., *Journal of Microscopy* **95**: 15–23.

Matheron, G. (1971b). The theory of regionalized variables and its applications, *Technical Report 5*, Cahiers du Centre de Morphologie Mathematique.

Matheron, G. (1973). The intrinsic random functions and their applications, *Advances in Applied Probability* **5**: 508–541.

McBratney, A. B. and Webster, R. (1981). The design of optimal sampling schemes for local estimation and mapping of regionalised variables. II. Program and examples., *Computers and Geosciences* **7**: 335–365.

McBratney, A. B. and Webster, R. (1986). Choosing functions for semi-variograms of soil properties and fitting them to sample estimates, *Journal of Soil Science* **37**: 617–639.

McBratney, A., Webster, R. and Burgess, T. (1981). The design of optimal sampling schemes for local estimation and mapping of regionalised variables. I. Theory and methods., *Computers and Geosciences* **7**: 331–334.

McCullagh, P. and Nelder, J. A. (1989). *Generalized Linear Models*, second edn, Chapman and Hall, London.

Menezes, R. (2005). Assessing spatial dependency under non-standard sampling. Unpublished Ph.D. thesis.

Metropolis, N., Rosenbluth, A. W., Rosenbluth, M. N., Teller, A. H. and Teller, E. (1953). Equations of state calculations by fast computing machine, *Journal of Chemical Physics* **21**: 1087–1091.

Møller, J., Syversveen, A. R. and Waagepetersen, R. P. (1998). Log-Gaussian Cox processes, *Scandinavian Journal of Statistics* **25**: 451–482.

Møller, J. and Waagepetersen, R. P. (2004). *Statistical Inference and Simulation for Spatial Point Processes*, Chapman and Hall/CRC.

Muller, W. (1999). Least squares fitting from the variogram cloud, *Statistics and Probability Letters* **43**: 93–98.

Muller, W. G. and Zimmerman, D. L. (1999). Optimal designs for variogram estimation, *Environmetrics* **10**: 23–27.

Natarajan, R. and Kass, R. E. (2000). Bayesian methods for generalized linear mixed models, *Journal of the American Statistical Association* **95**: 222–37.

Naus, J. I. (1965). Clustering of random points in two dimensions, *Biometrika* **52**: 263–267.

224   References

Neal, P. and Roberts, G. O. (2006). Optimal scaling for partially updating MCMC algorithms, *Annals of Applied Probability* **16**: 475–515.

Nelder, J. A. and Wedderburn, R. M. (1972). Generalized linear models., *Journal of the Royal Statistical Society, Series A* **135**: 370–84.

O'Hagan, A. (1994). *Bayesian Inference*, Vol. 2b of *Kendall's Advanced Theory of Statistics*, Edward Arnold.

Omre, H. (1987). Bayesian kriging — merging observations and qualified guesses in kriging, *Mathematical Geology* **19**: 25–38.

Omre, H., Halvorsen, B. and Berteig, V. (1989). A Bayesian approach to kriging, *in* M. Armstrong (ed.), *Geostatistics*, Vol. I, pp. 109–126.

Omre, H. and Halvorsen, K. B. (1989). The Bayesian bridge between simple and universal kriging, *Mathematical Geology* **21**: 767–786.

Patterson, H. D. and Thompson, R. (1971). Recovery of inter-block information when block sizes are unequal, *Biometrika* **58**: 545–554.

Pawitan, Y. (2001). *In All Likelihood: Statistical Modelling and Inference Using Likelihood*, Oxford University Press, Oxford.

Perrin, O. and Meiring, W. (1999). Identifiability for non-stationary spatial structure, *Journal of Applied Probability* **36**: 1244–1250.

R Development Core Team (2005). *R: A language and environment for statistical computing*, R Foundation for Statistical Computing, Vienna, Austria. http://www.R-project.org.

Rathbun, S. L. (1996). Estimation of poisson intensity using partially observed concomitant variables, *Biometrics* **52**: 226–242.

Rathbun, S. L. (1998). Spatial modelling in irregularly shaped regions: kriging estuaries, *Environmetrics* **9**: 109–129.

Ripley, B. D. (1977). Modelling spatial patterns (with discussion), *Journal of the Royal Statistical Society, Series B* **39**: 172–192.

Ripley, B. D. (1981). *Spatial Statistics*, Wiley, New York.

Ripley, B. D. (1987). *Stochastic Simulation*, Wiley, New York.

Ross, S. (1976). *A First Course in Probability*, Macmillan, New York.

Royle, J. A. and Nychka, D. (1988). An algorithm for the construction of spatial coverage designs with implementation in splus, *Computers and Geosciences* **24**: 479–88.

Rue, H. and Held, L. (2005). *Gaussan Markov Random Fields: Theory and Applications*, Chapman and Hall, London.

Rue, H. and Tjelmeland, H. (2002). Fitting Gaussian random fields to Gaussian fields, *Scandinavian Journal of Statistics* **29**: 31–50.

Ruppert, D., Wand, M. P. and Carroll, R. J. (2003). *Semiparametric Regression*, Cambridge University Press, Cambridge.

Russo, D. (1984). Design of an optimal sampling network for estimating the variogram, *Soil Science Society of America Journal* **52**: 708–716.

Sampson, P. D. and Guttorp, P. (1992). Nonparametric estimation of nonstationary spatial covariance structure, *Journal of the American Statistical Association* **87**: 108–119.

Sarndal, C. E. (1978). Design-based and model-based inference in survey sampling (with discussion), *Scandinavian Journal of Statistics* **5**: 27–52.

Schlather, M. (1999). Introduction to positive definite functions and to unconditional simulation of random fields, *Technical Report ST-99-10*, Dept. Maths and Stats, Lancaster University, Lancaster, UK.

Schlather, M., Ribeiro Jr, P. J. and Diggle, P. J. (2004). Detecting dependence between marks and locations of marked point processes, *Journal of the Royal Statistical Society, Series B* **66**: 79–93.

Schmidt, A. M. and Gelfand, A. E. (2003). A bayesian corregionalization approach for multivariate pollutant data, *Journal of Geophysical Research — Atmospheres* **108 (D24)**: 8783.

Schmidt, A. M. and O'Hagan, A. (2003). Bayesian inference for nonstationary spatial covariance structures via spatial deformations, *Journal of the Royal Statistical Society, Series B* **65**: 743–758.

Serra, J. (1980). Boolean model and random sets, *Computer Graphics and Image Processing* **12**: 99–126.

Serra, J. (1982). *Image Analysis and Mathematical Morphology*, Academic Press, London.

Spruill, T. B. and Candela, L. (1990). Two approaches to design of monitoring networks, *Ground Water* **28**: 430–442.

Stein, M. L. (1999). *Interpolation of Spatial Data: Some Theory for Kriging*, Springer, New York.

Takougang, I.and Meremikwu, M., Wanji, S., Yenshu, E. V., Aripko, B., Lamlenn, S., Eka, B. L., Enyong, P., Meli, J., Kale, O. and Remme, J. H. (2002). Rapid assessment method for prevalence and intensity of *loa loa* infection, *Bulletin of the World Health Organisation* **80**: 852–858.

Tanner, M. (1996). *Tools for Statistical Inference*, Springer, New York.

Thomson, M. C., Connor, S. J., D'Alessandro, U., Rowlingson, B. S., Diggle, P. J., Cresswell, M. and Greenwood, B. M. (1999). Predicting malaria infection in Gambian children from satellite data and bednet use surveys: the importance of spatial correlation in the interpretation of results, *American Journal of Tropical Medicine and Hygiene* **61**: 2–8.

Thomson, M. C., Obsomer, V., Kamgno, J., Gardon, J., Wanji, S., Takougang, I., Enyong, P., Remme, J. H., Molyneux, D. H. and Boussinesq, M. (2004). Mapping the distribution of *loa loa* in cameroon in support of the african programme for onchocerciasis control, *Filaria Journal* **3**: 7.

Van Groenigen, J. W., Pieters, G. and Stein, A. (2000). Optimizing spatial sampling for multivariate contamination in urban areas, *Environmetrics* **11**: 227–244.

Van Groenigen, J. W., Siderius, W. and Stein, A. (1999). Constrained optimisation of soil sampling for minimisation of the kriging variance, *Geoderma* **87**: 239–259.

Van Groenigen, J. W. and Stein, A. (1998). Constrained optimisation of spatial sampling using continuous simulated annealing, *Journal of Environmental Quality* **27**: 1076–1086.

Wahba, G. (1990). *Spline Models for Observational Data*, Society for Industrial and Applied Mathematics.

Waller, L. A. and Gotway, C. A. (2004). *Applied Spatial Statistics for Public Health Data*, Wiley, New York.

Warnes, J. J. and Ripley, B. D. (1987). Problems with likelihood estimation of covariance functions of spatial Gaussian processes, *Biometrika* **74**: 640–642.

Warrick, A. and Myers, D. (1987). Optimization of sampling locations for variogram calculations, *Water Resources Research* **23**: 496–500.

Watson, G. S. (1971). Trend-surface analyis, *Mathematical Geology* **3**: 215–226.

Watson, G. S. (1972). Trend surface analyis and spatial correlation, *Geology Society of America Special Paper* **146**: 39–46.

Wedderburn, R. W. M. (1974). Quasilikelihood functions, generalized linear models and the Gauss-Newton method, *Biometrika* **63**: 27–32.

Whittle, P. (1954). On stationary processes in the plane, *Biometrika* **41**: 434–449.

Whittle, P. (1962). Topographic correlation, power-law covariance functions, and diffusion, *Biometrika* **49**: 305–314.

Whittle, P. (1963). Stochastic processes in several dimensions, *Bulletin of the International Statistical Institute* **40**: 974–974.

Winkels, H. and Stein, A. (1997). Optimal cost-effective sampling for monitoring and dredging of contaminated sediments, *Journal of Environmental Quality* **26**: 933–946.

Wood, A. T. A. and Chan, G. (1994). Simulation of stationary Gaussian processes in $[0, 1]^d$, *Journal of Computational and Graphical Statistics* **3**: 409–432.

Wood, S. N. (2003). Thin plate regression splines, *Journal of the Royal Statistical Society B* **65**: 95–114.

Zhang, H. (2002). On estimation and prediction for spatial generalized linear mixed models, *Biometrics* **58**: 129–136.

Zhang, H. (2004). Inconsistent estimation and asymptotically equal interpolations in model-based geostatistics, *Journal of the American Statistical Association* **99**: 250–261.

Zimmerman, D. L. (1989). Computationally efficient restricted maximum likelihood estimation of generalized covariance functions, *Mathematical Geology* **21**: 655–672.

Zimmerman, D. L. and Homer, K. E. (1991). A network design criterion for estimating selected attributes of the semivariogram, *Environmetrics* **4**: 425–441.

Zimmerman, D. L. and Zimmerman, M. B. (1991). A comparison of spatial semivariogram estimators and corresponding kriging predictors, *Technometrics* **33**: 77–91.