

Articles in Journals

- Ailliot, P., Allard, D., Monbet, V. and Naveau, P. (2015) Stochastic weather generators : an overview of weather type models. *Journal de la Société Française de Statistiques*, **156**(1), 101-103.
- Allard, D., Senoussi, R. and Porcu, E. (2015) Anisotropy models for spatial data. *Mathematical Geosciences*. DOI 10.1007/s11005-015-9594-x
- Allard, D. and Bourotte, M. (2015) Disaggregating daily precipitations into hourly values with a transformed censored latent Gaussian process. *Stochastic Environmental Research and Risk Assessment*, **29**(2), 453–462. DOI 10.1007/s00477-014-0913-4
- Allard, Lopez-Lozano, R. and Baret, F. (2013) Modeling forest canopies with a hierarchical multi-ring Boolean model for estimating Leaf Area Index. *Spatial Statistics*, **5**, 42-56.
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- Renard, P. and Allard, D. (2013) Connectivity metrics for subsurface flow and transport, *Advances in Water Resources*, **51**. 168-196. doi :10.1016/j.advwatres.2011.12.001
- Girard, R. and Allard, D. (2012) Spatio-temporal propagation of wind power prediction errors, *Wind Energy*. doi :10.1002/we.1527
- Allard, D. and Soubeyrand, S. (2012) Skew-normality for climatic data and dispersal models for plant epidemiology : when application fields drive spatial statistics. *Spatial statistics*, **1**, 50-64.
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- Flecher, C., Allard, D. and Naveau P. (2010) Truncated skew-normal distributions : moments, estimation by weighted moments and application to climatic data, *Metron, Special Issue on Skew-symmetric and flexible distribution*, **LXVIII**, **3**, 331-345.
- Flecher, C., Naveau P., Allard D. and Brisson, N. (2010) A Stochastic Daily Weather Generator for Skewed Data, *Water Resource Research*, **46**, W07519. doi :10.1029/2009WR008098.
- Gabriel, E., Allard, D. and Bacro, J.-N. (2010) Estimating and Testing Zones of Abrupt Change for Spatial Data, *Statistics and Computing*, **21**, 107-120. doi :10.1007/s11222-009-9151-x.
- Flecher, C., Naveau, Ph. and Allard, D. (2009) Estimating the Closed Skew-Normal distributions parameters using weighted moments, *Statistics and Probability Letters*, **79**, 1977-1984.
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- Bel, L., Allard, D., J.M. Laurent, Cheddadi, R. and Bar-Hen, A. (2008) CART algorithm for spatial data : Application to environmental and ecological data, *Computational Statistics and Data Analysis*. doi :10.1016/j.csda.2008.09.012
- Garrigues, S., Allard, D. and Baret, F., (2008) Modeling Temporal Changes in Surface Spatial Heterogeneity over an Agricultural site, *Remote Sensing of Environment*, **112**, 588-602.
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- Garrigues, S., Allard, D., Baret, F. and Morisette, J. (2008) Multivariate Quantification of Landscape Spatial Heterogeneity using Variogram Models, *Remote Sensing of Environment*, **112**, 216-230.
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- Garrigues, S., Allard, D. and Baret, F. (2007) Using first and second order variograms for characterizing landscape spatial structures from remote sensing imagery *IEEE TGARS*, **45**, 1823 - 1834.
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- Garrigues, S., Allard, D., Baret, F. and Weiss, M. (2006) Influence of the spatial heterogeneity on the non linear Estimation of Leaf Area Index from moderate resolution remote sensing data, *Remote Sensing of Environment*, **105**, 286-298.
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- Monestiez P., Courault D., Allard D. and Ruget F. (2001) Spatial interpolation of air temperature using environmental context : application to a crop model, *Environmental and Ecological Statistics*, **8**, 297-309.
- Allard D., Brix A., Chadœuf J. and Couteron P. (2001), Testing Local Independence Between two Point Processes, *Biometrics*, **57**, 508-517.
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- Allard D. (1998), Geostatistical Classification and Class Kriging, *Journal of Geographical Information and Decision Analysis*, **2**, 87-101.
- Allard D. and Fraley Ch. (1997), Non Parametric Maximum Likelihood Estimation of Features in Spatial Point Processes Using Voronoï Tessellation, *Journal of the American Statistical Association*, **92**, 1485-1493.
- Allard D. (1993), Some Connectivity Characteristics of a Boolean Model, *Acta Stereologica*, **12**, 191-196.

Edited Book

- Monestiez P., Allard D. and Froidevaux R. (Eds) (1999), *geoENV III : Geostatistics for environmental applications*, Kluwer Academic Publishers, Dordrecht.

Book reviews

- J.-P. Chilès, P. Delfiner : *Geostatistics : Modeling Spatial Uncertainty* 2nd Edition. Wiley, 2012. *Mathematical Geosciences*, 2013, **4**, 377-380. doi :10.1007/s11004-012-9429-y
- A.E. Gelfand, P.J. Diggle, M. Fuentes, P. Guttorp (eds.) : *Handbook of spatial statistics*, Chapman & Hall/CRC, Statistics and Computing, 2011, **21**, 293-294. doi :10.1007/s11222-010-9211-2

Other Refereed Papers and Book chapters

- Arrouays, D. Marchant BP, Saby NPA, Meersmans J., Jolivet C, Orton TG, Martin MP, Bellamy PH, Lark RM, Louis BP, Allard D, Kibblewhite M. (2014) On soil carbon monitoring networks in *Soil Carbon*, Springer. pp 59-68. doi :10.1007/978-3-319-04084-4_6.
- Allard, D. (2012) Modeling spatial and spatio-temporal non Gaussian processes, in *Space-Time Processes and Challenges Related to Environmental Problem*, Eds. Porcu, E., Montero, J.-M. and Schlather M., Lecture Notes in Statistics, Vol. 207, Springer. pp. 141-164. doi : 10.1007/978-3-642-17086-7_7.
- Allard, D. and Brisson, N. (2010) Analyse des sources de d'incertitude et de variabilité. In *Changement climatique, agriculture et forêt en France : simulation d'impacts sur les principales espèces. Le livre vert du oroyet CLIMATOR (2007-2010)*. N. Brisson et F. Levrault Eds. ADEME. pp 51-62.
- Biver, P. Allard, D. and D'Or, D. (2008), Litho-Type Modeling Using Soft-Probabilities from Seismic Attributes and other Sources of Information, in *Geostats "Santiago 2008"*, Eds. Ortiz, J.M. and Emery, X., Gecamin, pp. 319-328.
- D'or D., Allard, D. Biver, P. Froidevaux, R. and Walgenwitz, A. (2008), Simulating Categorical Random Fields Using the Multinomial Regression Approach, in *Geostats "Santiago 2008"*, Eds. Ortiz, J.M. and Emery, X., Gecamin, pp. 59-68.
- Allard, D. and Garrigues, S. (2008) Spatio-Temporal Modeling of Landscape Variograms, in *Geostatistics "Santiago 2008"*, Eds. Ortiz, J.M. and Emery, X., Gecamin, 449-458.
- Allard, D. and Gabriel, E. (2007), Détection de zones de changement abrupts pour des variables non permanentes du sol : vers la définition de zones homogènes?, in Guérif, M. and King, D., Coords., Editions Quae, Paris, pp. 165-76.
- Allard, D. (2006), Validation d'un modèle géostatistique pour l'interpolation : application à un événement pluvieux, in *Statistiques Spatiales*, Eds. Droesbeke, J.-J. et Lejeune, M., Technip, Paris, pp. 403-414.
- Chilès, J.-P. and Allard, D. (2005), Stochastic Simulation of Soil Variation, in *Geographic Information Technologies for Environmental Soil-Landscape Modelling*, Ed. Grunwald, S., CRC Press, Boca Raton, pp. 289-321.
- Bel, L., Laurent, J.M., Bar-Hen, A., Allard, D. and Cheddadi, R. (2005), A spatial extension of CART : Application to classification of ecological data, in *Geostatistics for Environmental Applications*, Eds. P. Renard H. Demougeot-Renard and R. Froidevaux, Springer, pp. 99-109.
- Allard D., Froidevaux R. and Biver P. (2005), Accounting for non-stationarity and interactions in object simulation for reservoir heterogeneity characterization, in *Geostatistics Banff 2004*, Eds. Leuangthong, O., Deutsch, C. V., Springer, pp. 155-164.
- Gabriel E. and Allard D. (2005), Assessing the power of zones of abrupt change detection test, in *Geostatistics Banff 2004*, Eds. Leuangthong, O., Deutsch, C. V., Springer, pp. 1103-1008.
- Garcia M., Allard D., Foulon D. and Delisle S. O. (2005), Fine scale rock properties : Towards the spatial modeling of regionalized probability distribution functions, in *Geostatistics Banff 2004*, Eds. Leuangthong, O., Deutsch, C. V., Springer, pp. 579-590.
- Naveau P. and Allard D. (2005), Modeling skewness in spatial data analysis without data transformation, in *Geostatistics Banff 2004*, Eds. Leuangthong, O., Deutsch, C. V. , Springer, pp. 929-931.
- Gabriel, E., Allard, D. and Bacro, J.N. (2004), Detecting Zones of Abrupt Change : application to soil data, in *geoENV IV : Geostatistics for Environmental Applications* Eds. Sanchez Vila, X. Carrera J. and Gomez Hernandez, J.J., Kluwer Academic Publisher, pp. 437-448.

- Courault, D., Oliosio, A., Lagouarde J.-P., Monestiez, P. and Allard, D. (2004), Influence des cultures sur les variables climatiques in *Organisation spatiale des activités agricoles et processus environnementaux*, Eds. Monestiez, P., Lardon S. et Séguin, B, INRA Editions, pp. 303-320.
- Gleyze J.-F., Bacro, J.-N. and Allard D. (2001), Detecting regions of abrupt change : Wombling procedure and statistical significance, in *geoENV III : Geostatistics for environmental applications*, Eds. Monestiez P., Allard D. and Froidevaux R., Kluwer Academic Publishers, Dordrecht, pp. 311-322.
- Allard D. and Monestiez P. (1999), Geostatistical Segmentation of Rainfall Data, in *geoENV II : Geostatistics for Environmental Applications*, Eds. Gomez-Hernandez J., Soares A. and Froidevaux R., Kluwer Academic Publishers, Dordrecht, pp. 139-150.
- Monestiez P., Allard D., Navarro Sanchez I. and Courault D. (1999), Kriging with Categorical External Drift : Use of Thematic Maps in Spatial Prediction and Application to Local Climate Interpolation for Agriculture, in *geoENV II : Geostatistics for environmental applications*, Eds. Gomez-Hernandez J., Soares A. and Froidevaux R., Kluwer Academic Publishers, Dordrecht, pp. 163-174.
- Allard D., Armstrong M., and Kleingeld W. J. (1994), The Need for a Connectivity Index in Mining Geostatistics in *Geostatistics for the Next Century*, Ed. R. Dimitrakopoulos, Kluwer Academic Publishers, Dordrecht, pp. 293-302.
- Allard D. (1993), Simulating a Geological Lithofacies with Respect of Connectivity Information Using the Truncated Gaussian Model, in *Geostatistical Simulations*, Eds. M. Armstrong and P. Dowd, Kluwer Academic Publishers, Dordrecht, pp. 197-211.
- Allard, D. and Heresim Group (1992). On the connectivity of two random set models : the truncated gaussian and the Boolean, in *Geostatistics Troia '92*, Ed. Soares A., Kluwer Academic Publishers, Dordrecht, pp. 467-478.

Invited Conferences

- Allard D., Senoussi R. and Porcu E. Anisotropy models for spatial data. *Gaussian Random Fields Simulations Workshop*, Bern, 24–26 Novembre 2014.
- Allard, D., Davi, H., Naveau, P. and Trá̃lpos, R. Stochastic Weather Generators : what are they good for ? *Heteroclim Workshop*, Loches, 11–13 juin 2014.
- Allard D., López-Lozano R., Baret, F. A hierarchical Boolean model for estimating leaf area index from second order statistics of vetical gap fraction images. *Workshop on Stochastic Geometry and its application*, Grenoble, 3–5 avril 2013.
- Allard D., Brisson N.[†], Flecher C. and Naveau P. A weather generator for simulating multivariate climatic series. *Journée MASCOT-NUM “Modélisation pour l’environnement et expérimentation numérique”*, Paris, 21 Juin 2011.
- Brisson, N. Allard, D. and Dequé, M. Exploring the uncertainties in climate change impact studies on agriculture : results of the CLIMATOR project, *ACCAE 2010*, 20-22 octobre, Clermont Ferrand, France
- Allard, D. (2008) From geostatistics to spatial statistiscs : advaces and challenges, *8th Conference on Geostatistics for Environmental Applications*, Southampton (GB), September 2008.
- Allard, D., Naveau, Ph., Flecher, C. (2008) A skew-normal random field model : properties and estimation, *7th SSIAB Workshop*, Toulouse, May 2008.
- Allard D., Gabriel E. and Bacro J.N. Estimating and Testing Zones of Abrupt Changes for Spatial Data : From Local Tests to a Global Test. *WNAR/IMS conference*, Fairbanks (AL, USA), June 2005

- Allard D. Stationnarité, structuration et échelles. Point de vue géostatistique. *Séminaire multi-échelle*, GDR Sigma, Avignon, May 2003.
- Allard D. Validation d'un modèle géostatistique pour l'interpolation : application à un événement pluvieux, *Journées d'étude statistique en statistiques spatiales*, September 2002, CIRMM.
- Allard D. Choix et validation d'un modèle d'interpolation spatiale : exemple de l'événement pluvieux du 8 mai 1986, en Suisse, *SMAI, congrès national de mathématiques appliquées et industrielles*, Mai 2001, Pompadour.
- Allard D. and Chadœuf J. Testing Spatial Point Process Models Using (pseudo) Bayes Factors, *ENAR Spring Meeting* March 1999, Atlanta, (GA, USA).

Other selected talks

- Allard D., Senoussi R. and Porcu E. (2014) A new class of anisotropy models. *International Conference on Geostatistics for the Environment*, Paris, 8–11 juillet 2014.
- Walgenwitz, A., Allard, D., and Biver, P. (2014) Conditional object-based simulations of "flexible" objects. *International Conference on Geostatistics for the Environment*, Paris, 8–11 juillet 2014.
- Bourotte M. and Allard D. (2014) A New Parametric Class Of Cross-Covariance Functions For Multivariate Spatio-Temporal Random Fields. *International Conference on Geostatistics for the Environment*, Paris, 8–11 juillet 2014.
- Allard, D. Porcu, E. and Senoussi, R. (2014) Characterization and new models of anisotropy for spatial data. *10th French-Danish workshop in Spatial Statistics and Image Analysis in Biology*, Aalborg, Denmark, 20–23 mai 2014.
- Saby, N., Bourgeois, A., Allard, D., Boukir, H., Martin, M.P., Bardy, M. Arrouays, D. Testing the implementation of sampling designs for soil carbon monitoring. *Soils in Space and Time*, Ulm, 30 Septembre – 5 Octobre 2013.
- Bourotte, M. and Allard, D. (2013) Un générateur stochastique de séries pluviométriques pour la désagrégation de données journalières en données horaires. *45ième Journées de statistiques, Toulouse*, 27–31 mai 2013.
- Allard D., López-Lozano R., Baret, F. A hierarchical Boolean model for estimating leaf area index from second order statistics of vertical gap fraction images *IX conference on Geostatistics for Environmental Applications*, Valencia, 19–21 septembre 2012.
- D'Or D. and Allard D. Correcting the bias of proportions in non stationary simulations with the Markov-type categorical prediction algorithm. *IX conference on Geostatistics for Environmental Applications*, Valencia, 19–21 septembre 2012.
- Walgenwitz A. and Allard D. A fast and precise algorithm for kriging with large data sets on very large grids. *IX conference on Geostatistics for Environmental Applications*, Valencia, 19–21 septembre 2012.
- Renard P. and Allard D. Connectivity metrics for subsurface flow and transport. *IX conference on Geostatistics for Environmental Applications*, Valencia, 19–21 septembre 2012.
- Allard D., D'Or D., Biver P. and Froidevaux R. Non-parametric diagrams for plurigaussian simulations of lithologies. *Ninth International Geostatistics Congress*, Oslo, Norway June 11 – 15, 2012.
- Comunian A., Allard D., Renard P. (2012) A Review of Probability Aggregation Methods in Earth Sciences. *Ninth International Geostatistics Congress*, Oslo, Norway June 11 – 15, 2012.
- Allard D., Brisson N.[†], Flecher C. and Naveau P. (2012) A weather generator for simulating multivariate climatic series. *First Workshop on Stochastic Weather Generators*, Roscoff, May 29th - June 1st, 2012

- Allard D., Renard P., Comunian A. and D'Or D. Combining probabilities with log-linear pooling : application to spatial data *9th French-Danish workshop in Spatial Statistics and Image Analysis in Biology*, Avignon, France, 9-11 mai 2012.
- Allard D., Flecher, C. and Naveau, P. A weather generator for simulating multivariate climatic series. 1st Conference on Spatial Statistics 2011, Enschede (NL), 23-25 March 2011.
- D'Or, D., Allard, D. and Froidevaux, R. (2010) Incorporating non stationarity in categorical variables simulations with MCS. 8th Conference on Geostatistics for Environmental Applications, Gent, Belgium, 13-15 September 2010.
- Flecher, C., Naveau, Ph. and Allard, D. Estimating the Closed Skew-Normal distributions parameters using weighted moments. METMA 4, Sardinia (IT), September 2008.
- Allard D., Gabriel E. and Bacro J.N. "Estimating and Testing Zones of Abrupt Changes for Spatial Data : From Local Tests to a Global Test." Geophysical Statistics Project Lecture Series in Statistics at NCAR Boulder (CO, USA), June 2005
- Peyrard N., Allard, D. and Forbes F. "Comparaison de deux modélisations pour la classification de données géostatistiques", Journées de Statistique de la SFdS, Pau, June 2005.
- Allard D., Forbes F. and and Peyrard N. "Comparing Two Models for Clustering Spatial Data", Working Group on Model-based Clustering, Seattle (WA, USA)), July 2004.
- Garrigues, S., Allard, D. and Baret, F. "Characterization of Spatial Heterogeneity and Spatial Structure at Landscape Scale", in Abstract of Association of Geophysical Union Joint Assembly, Montreal (CA), May 2004.
- Garrigues, S., Allard, D. and Baret, F., Weiss, M. "Spatial heterogeneity Characterization for Scaling Non linear Processes" in Abstract of Association of Geophysical Union Joint Assembly, Montreal (CA), May 2004.
- Naveau P., Allard D. and Genton M. "Modeling Skewness in Geosciences : Applications to Kalman filtering and spatial interpolation" Geophysical Statistics Project Lecture Series in Statistics at NCAR Boulder (CO, USA), June 2004.
- Allard D., Baragon, G. "Détection d'une rupture dans des séries de floraison de pommiers ; approche bayésienne", Journée de la la Mission Changement Climatique et Effet de Serre, Isle-sur-la-Sorgue, janvier 2004.
- Baret F., Garrigues S., Allard D., Faivre R. "Estimation of surface characteristics over heterogeneous landscapes from medium resolution sensors", EGS-AGU-EUG Joint Assembly, Nice, April 2003.
- Allard D. Froidevaux, R. and Biver P. "Non stationary reservoir heterogeneity characterisation by simulation of Boolean models" IAMG 2003 Portsmouth, September 2003.
- Garrigues, S., Allard, D. and Baret, F. "Spatial Heterogeneity Characterization fro Scaling Non Linear Processes", in Proceedings of Second SPECTRA Workshop, Noordwijk, October 2003.
- Allard D. "Clustering Geostatistical Data", Working Group on Model-based Clustering and Bayesian Model Selection, Seattle, July 2002.
- Allard D., Gabriel E. and Bacro J.N. "Detecting Zones of Abrupt Change in Gaussian Random Fields : An Application to Precision Agriculture", Working Group on Model-based Clustering and Bayesian Model Selection, Seattle, July 2002.
- Allard D., Gabriel E. and Bacro J.N. "Détection de ruptures dans un champ Gaussien : application à l'agriculture de précision", Journées de Statistiques de la SFdS, Brussels, May 2002.
- Garrigues S., Weiss M., Allard D. and Baret F. "Influence of spatial heterogeneity and Scaling on Leaf Area Index Estimates from Remote Sensing Data" in Proceedings of First Symposium of Recent Advances in Quantitative Remote Sensing, Valencia, September 2002

- Weiss, M., de Beaufort, L. Baret, F., Allard, D. Bruguier, N. and Marloie, O. "Mapping LAI measurements at different scales for the validation of large swath satellite sensors. First results for the Valeri project", Workshop CNES, Aussois January 2001.
- Voltz, M., Monestiez, P., Allard, D. and Lagacherie, P. "Using soil map information as a categorical external drift for kriging quantitative soil properties" Conference of the Working Group on Pedometrics of the International Union of Soil Science (IUSS) - Sydney, September 1999.
- Allard D. and Guillot G. "Clustering geostatistical data", Geostat 2000 Congress, Capetown, April 2000.
- Chadœuf J., Brix A., Pierret A. and Allard D. "Local tests in agricultural research", International Conference on Stereology, Spatial Statistics and Stereology (S⁴G), Prague, June 1999.
- Monestiez P. and Allard D. "Use of Thematic Maps in Spatial Prediction : Kriging with Categorical External Drift", French-Danish Workshop *Spatial Statistics and Image Analysis in Biology*, Sandbjerg (Denmark), May 1998.
- Allard D. and Chadœuf J. "Testing Spatial Point Process Models Using Bayes Factors", French-Danish Workshop *Spatial Statistics and Image Analysis in Biology*, Sandbjerg (Denmark), May 1998.
- Chadœuf J., Brix A. and Allard D. "Measuring Local Association Between Two Point Processes", French-Danish Workshop *Spatial Statistics and Image Analysis in Biology*, Sandbjerg (Denmark), May 1998.
- Allard D. "A non stationary doubly stochastic point process : the intrinsic log gaussian Cox process", Model-Based Clustering, Spatial Data Analysis, and Bayesian Model selection Workshop, Seattle, July 1997.
- Allard D., Monestiez P. and Navarro Sanchez I. (1997), "Spatial Modeling of Temperatures Using Land-Use Data", National Center for Research in Environmental Statistics Seminar, July 1997, University of Washington, Seattle, USA.