Curriculum vitae

José Miguel ANGULO IBÁÑEZ

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Professional address   Department of Statistics and Operations Research
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ACADEMIC AND PROFESSIONAL DATA

Degrees

Bachelor degree in Mathematics, 1981, University of Granada, Spain
PhD degree in Mathematics, 1985, University of Granada, Spain

Thesis title: *Contributions to the theory of McShane's stochastic integral equation sysyems: Existence and uniqueness, regularities (*Spanish title: *Aportaciones a la teoría de sistemas de ecuaciones integrales estocásticas de McShane: Existencia y unicidad, regularidades).*
Thesis Director: Ramón Gutiérrez Jáimez

Current position

Full Professor, Department of Statistics and Operations Research, University of Granada, Spain (since December 29, 2000)

PARTICIPATION IN FINNACED RESEARCH PROJECTS

Title: Análisis Estadístico de Datos Multivariantes y Procesos Estocásticos (Ref. FQM-0147)
Approved and Finnanced by: Junta de Andalucía, Spain.
Period: since 1989
Chief Investigator: Formerly, R. Gutiérrez-Jáimez (University of Granada, Spain) (1989-2018). Currently, J.M. Angulo (University of Granada, Spain) (2018-)

Title: Desarrollo de Modelos Estocásticos Espacio-Temporales para la Investigación Hidrogeológica (Hidrdinámica e Hidrogeoquímica) de Acuíferos Detríticos (guadix-Baza y el Aluvial de Río Vélez) y de los Sistemas Lagunares de la Región de Antequera (Ref. AMB93-0932)
Approved and Finnanced by: Ministerio de Ciencia y Tecnología, Spain
Period: 1993-1996
Chief Investigator: J.M. Angulo (University of Granada, Spain)

Title: Desarrollo de Modelos Econométricos de Predicción Dinámica para la Evolución del Turismo en Andalucía (Ref. PS93-0201)
Approved and Finnanced by: Ministerio de Ciencia y Tecnología, Spain
Period: 1994
Chief Investigator: M.J. Valderrama (University of Granada, Spain)

Title: Desarrollo de Modelos Econométricos de Predicción Dinámica para la Evolución del Turismo en Andalucía (Ref. PS94-0136)
Approved and Finnanced by: Ministerio de Ciencia y Tecnología, Spain
Period: 1995-1997
Chief Investigator: M.J. Valderrama (University of Granada, Spain)

Title: Investigación sobre Representación y Simulación de Campos Aleatorios y su Aplicación al Estudio de Fenómenos de Evolución en Sistemas Físico-Naturales (Ref. ACP96-0183)
Approved and Finnanced by: Ministerio de Ciencia y Tecnología, Spain
Period: 1997
Chief Investigator: J.M. Angulo (University of Granada, Spain)

Title: Modelización, Aproximación y Simulación de Campos Aleatorios. Aplicación a la Investigación de Fenómenos de Evolución en Sistemas Físico-Naturales (Ref. PB96-1440)
Approved and Finnanced by: Ministerio de Ciencia y Tecnología, Spain
Period: 1997-2000
Chief Investigator: J.M. Angulo (University of Granada, Spain)

Title: Modelización Estocástica y Análisis Estadístico de Procesos Espacio-Temporales. Aplicaciones en Ciencias Físico-Naturales y Medio-Ambientales (Ref. BFM2000-1465)
Approved and Finnanced by: Ministerio de Ciencia y Tecnología, Spain
Period: 2000-2002
Chief Investigator: J.M. Angulo (University of Granada, Spain)

Title: Modelización Estocástica y Análisis Estadístico de Procesos Espacio-Temporales con Características Fractales (Ref. BFM2002-01836)
Approved and Finnanced by: Ministerio de Ciencia y Tecnología, Spain
Period: 2002-2005
Chief Investigator: M.D. Ruiz-Medina (University of Granada, Spain)

Title: Structural Study of Long-Range Dependence, Infinite Variance and Coherent Structures (Ref. A69804041)
Approved and Finnanced by: Australian Research Council.
Period: 1998-2000
Chief Investigators: V.V. Anh (Queensland University of Technology, Brisbane), C.C. Heyde (Australian National University, Canberra, and Columbia University, Center for Applied Probability, New York) and M. Farge (École Normale Supérieure, Paris)

Title: Stochastic Modelling and Analysis of Spatio-Temporal Processes with Fractal Characteristics (Ref. LX0348297)
Approved and Finnanced by: Australian Research Council-- Linkage-International Award.
Period: 2003-2004
Chief Investigator: V.V. Anh (Queensland University of Technology, Brisbane),

Title: Spatiotemporal Multifractal Modelling and Local Prediction of Magnetic Storms (Ref. 0417676)
Approved and Finnanced by: National Science Foundation, CMG Collaborative Research, USA
Period: 2005-2008
Chief Investigators: Vo V. Anh (Florida Space Institute) and James Wanliss (Embry Riddle Aeronautical University). Co-Investigator: Stephen Watson (Florida Space Institute). Collaborators: Mark Moldwin (University of California, Los Angeles), José M. Angulo (Universidad de Granada) and María D. Ruiz-Medina (University of Granada)

Title: Stochastic Modelling of Spatiotemporal Nonlinear Diffusion Processes with Multifractal Characteristics (Ref. DP0559807)
Approved and Finnanced by: Australian Research Council, Discovery Projects
Period: 2005-2009
Chief Investigator: Vo V. Anh (Queensland University of Technology, Brisbane). **Partner Investigators:** Ka S. Lau (The Chinese University of Hong Kong), Nikolai Leonenko (Cardiff University), José M. Angulo (University of Granada) and María D. Ruiz-Medina (University of Granada)

Title: Modelización y Análisis Estadístico de Características Locales y Propiedades de Memoria para Datos Espacio-Temporales (Ref. MTM2005-08597)
Approved and Finnanced by: Dirección General de Investigación, Ministerio de Educación y Ciencia
Period: 2005-2008
Chief Investigator: M.D. Ruiz-Medina

Title: Análisis Estadístico de Valores Extremos en Procesos Espacio-Temporales. Aplicación a la Evaluación de Riesgos en Ingeniería y Medio Ambiente (Ref. P05-FQM-00990)
Approved and Finnanced by: Junta de Andalucía, Consejería de Innovación, Ciencia y Empresa, Proyectos de Excelencia
Period: 2006-2008
Chief Investigator: J.M. Angulo

Title: Métodos Wavelets para la Inferencia sobre Datos Funcionales en Espacios Singulares (Ref. MTM2008-03903).
Approved and Finnanced by: Subdirección General de Proyectos de Investigación, Ministerio de Ciencia e Innovación.
Period: 2009
Chief Investigator: M.D. Ruiz-Medina

Title: Análisis Estructural y Predictivo de Sucesos Extremos Espacio-Temporales. Aplicaciones en Geociencias (Ref. P08-FQM-03834)
Approved and Finnanced by: Junta de Andalucía, Consejería de Innovación, Ciencia y Empresa, Proyectos de Excelencia.
Period: 2009-2013
Chief Investigator: J.M. Angulo

Title: Indicadores de Riesgo Basados en el Análisis Geométrico-Probabilístico de Excedencias de Umbrales Generalizados en Procesos Espacio-Temporales sobre Medios Inestables (Ref. MTM2009-13250).
Approved and Finnanced by: Subdirección General de Proyectos de Investigación, Ministerio de Ciencia e Innovación.
Period: 2010-2012
Chief Investigator: J.M. Angulo

Title: Análisis Espacio-Temporal: Complejidad Estructural, Comportamiento Extremal y Medidas de Informacion Generalizadas (Ref. MTM2012-32666).
Approved and Finnanced by: Subdirección General de Proyectos de Investigación, Ministerio de Economía y Competitividad
Period: 2013-2015
Chief Investigator: J.M. Angulo

Title: Análisis de Riesgos en Sistemas Complejos. Avances Teóricos y Metodológicos. (Ref. MTM2015-70840-P).
Approved and Finnanced by: Subdirección General de Proyectos de Investigación, Ministerio de Economía y Competitividad
Period: 2016-2018
Chief Investigator: J.M. Angulo

Title: Campos Aleatorios, Procesos Puntuales y Medidas Multifractales en Espacio-Tiempo: Enfoques de Análisis de Información, Complejidad y Riesgo. (Ref. PGC2018-098860-B-I00).
Approved and Finnanced by: Ministerio de Ciencia, Innovación y Universidades; Agencia Estatal de Investigación; FEDER.
Period: 2019-2021
Chief Investigator: J.M. Angulo

Title: Modelos Estocásticos Espacio-Temporales: Generalizaciones, Inferencia y Análisis de Riesgos. (Ref. A-FQM-345-UGR18).
Approved and Finnanced by: Programa Operativo FEDER 2014-2020; Consejería de Economía y Conocimiento, Junta de Andalucía.
Period: 2020-2021
Chief Investigators: J.M. Angulo and M.D. Ruiz-Medina

PUBLICATIONS

Papers in refereed journals

On the Existence and Uniqueness of the Solution Processes in McShane's Stochastic Integral Equation Systems.
J.M. Angulo and R. Gutiérrez.
Annales Scientifiques de l'Université Blaise Pascal, Vol. 92, 1-9, 1988.

Parametric Dependence of the Solution Processes on the Coefficients in McShane's Stochastic Integral Equation Systems.
J.M. Angulo and R. Gutiérrez.
Annales Scientifiques de l'Université Blaise Pascal, Vol. 92, 1-9, 1988.

Inference in Lognormal Multidimensional Diffusion Processes with Exogenous Factors: Application to Modelling in Economics.
R. Gutiérrez, J.M. Angulo, A. González and R. Pérez.
Applied Stochastic Models and Data Analysis, Vol. 7, 295-316, 1991.

The Gaussian Distribution Revisited.
C.E. Puente, N.M. López, J.E. Pinzón y J.M. Angulo.
Advances in Applied Probability, Vol. 28, 500-524, 1996.

Estimation and Smoothing fron Incomplete Data for a Class of Lattice Processes.
F.J. Alonso, J.M. Angulo and M.C. Bueso.
Communications in Statistics, Vol. 25, 667-681, 1996.

Application of EM-Type Algorithms to Spatial Data.
F.J. Alonso, J.M. Angulo and M.C. Bueso.
Communications in Statistics, Vol. 26, 669-683, 1997.

Modelización Estocástica del Acuífero del Río Vélez (Málaga): Aplicación al Diseño de Redes de Control del Nivel Piezométrico.
J.L. García-Aróstegui, M.C. Bueso, J. Cruz-Sanjulián, J.M. Angulo, F.J. Alonso y J. Benavente
Boletín Geológico y Minero, Vol. 108, 259-270, 1997.

On the Orthogonal Representation of Generalized Random Fields.
J.M. Angulo y M.D. Ruiz-Medina.
Statistics & Probability Letters, Vol. 31, 145-153, 1997.

A Series Expansion Approach to the Inverse Problem.
J.M. Angulo y M.D. Ruiz-Medina.
Journal of Applied Probability, Vol 35, 371-382, 1998.

Long-Range Dependence and Second-Order Intermittency of Two Dimensional Turbulence.
V.V. Anh, J.M. Angulo, M.D. Ruiz-Medina y Q. Tieng.
Environmental Modelling & Software, Vol. 13, 233-238, 1998.

A State-Space-Model Approach to Optimal Spatial Sampling Design based on Entropy.
M.C. Bueso, J.M. Angulo y F.J. Alonso.
Environmental and Ecological Statistics, Vol. 5, 29-44, 1998.

Semi-Parametric Statistical Approaches for Space-Time Process Prediction.
J.M. Angulo, W. González-Manteiga, M. Febrero-Bande y F.J. Alonso.
Environmental and Ecological Statistics, Vol. 5, 297-316, 1998.

Stochastic Complexity and Model Selection from Incomplete Data.
M.C. Bueso, G. Qian and J.M. Angulo.
Journal of Statistical Planning and Inference, Vol. 76, pp. 273-284, 1999.

Optimal Spatial Sampling Design in a Multivariate Framework.
M.C. Bueso, J.M. Angulo, J. Cruz-Sanjulián and J.L. Garcia-Aróstegui.
Mathematical Geology, Vol. 31, pp. 507-525, 1999.

Possible Long-Range Dependence in Fractional Random Fields.
V.V. Anh, J.M. Angulo and M.D. Ruiz-Medina.
Journal of Statistical Planning and Inference, Vol. 80, pp. 95-110, 1999.

Multiresolution Approximation to the Stochastic Inverse Problem.
J.M. Angulo and M.D. Ruiz-Medina.
Advances in Applied Probability, Vol. 31, pp. 1039-1057, 1999.

Spatial Sampling Design Based on Stochastic Complexity.
M.C. Bueso, J.M. Angulo, G. Qian and F.J. Alonso.
Journal of Multivariate Analysis, Vol. 71, pp. 94-110, 1999.

The Wiener-Hopf Integral Equation for Fractional Riesz-Bessel Motion.
V.V. Anh, W. Grecksch, J.M. Angulo and M.D. Ruiz-Medina.
Australian and New Zealand Industrial and Applied Mathemathics Journal, Vol. 42, pp. 1-14, 2000.

Covariance Factorisation and Abstract Representation of Generalised Random Fields.
V.V. Anh, M.D Ruiz-Medina and J.M. Angulo.
Bulletin of the Australian Mathematical Society, Vol. 62, pp. 319-334, 2000.

Estimation and Filtering of Fractional Generalised Random Fields.
J.M. Angulo, M.D. Ruiz-Medina and V.V. Anh.
Journal of the Australian Mathematical Society, Ser. A, Vol. 69, pp. 1-26, 2000.

A Study on Sampling Design for Optimal Prediction of Space-Time Stochastic Processes.
J.M. Angulo, M.C. Bueso and F.J. Alonso.
Stochastic Environmental Research and Risk Assessment, Vol. 14, pp. 412-427, 2000.

Fractional Diffusion and Fractional Heat Equation.
J.M. Angulo, M.D. Ruiz-Medina, V.V. Anh and W. Grecksch .
Advances in Applied Probability, Vol. 32, pp. 1077-1099, 2000.

Differential Representation and Markov Property of Generalized Random Fields.
V.V. Anh, M.D. Ruiz-Medina and J.M. Angulo .
Stochastic Analysis and Applications, Vol. 19, pp. 481-498, 2001.

Stochastic Fractional-Order Differential Models with Fractal Boundary Conditions.
M.D. Ruiz-Medina, V.V. Anh and J.M. Angulo.
Statistics & Probability Letters, Vol. 54, pp. 47-60, 2001.

Scaling Limit Solution of a Fractional Burgers Equation.
M.D. Ruiz-Medina, J.M. Angulo and V.V. Anh.
Stochastic Processes and Their Applications, Vol. 93, pp. 285-300, 2001.

Random Perturbation Methods Applied to Multivariate Spatial Sampling Design.
J.M. Angulo and M.C. Bueso.
Environmetrics, Vol. 12, pp. 631-646, 2001.

Multiscale Reconstruction and Extrapolation of Fractional Random Fields.
R. Fernández-Pascual, M.D. Ruiz-Medina and J.M. Angulo.
Revista de Estatística (Instituto Nacional de Estatística, Portugal), Vol. 3, pp. 135-136, 2001.

Application of Hilbert-Space Methods to Random Field Modelling and Estimation.
M.D. Ruiz-Medina, J.M. Angulo and V.V. Anh.
American Journal of Mathematical and Management Sciences, Vol. 21, pp. 263-282, 2002.

Spatio-Temporal Filtering Using Wavelets.
M.D. Ruiz-Medina and J.M. Angulo.
Stochastic Environmental Research and Risk Assessment, Vol. 16, pp. 241-266, 2002.

Stochastic Fractional-Order Differential Models on Fractals.
M.D. Ruiz-Medina, J.M. Angulo and V.V. Anh.
Theory of Probability and Mathematical Statistics, Vol. 67, pp. 130-146, 2002.

Fractional-Order Regularization and Wavelet Approximation to the Inverse Estimation
Problem for Random Fields.
M.D. Ruiz-Medina, J.M. Angulo and V.V. Anh.
Journal of Multivariate Analysis, Vol. 85, pp. 192-216, 2003.

Multiscale Estimation of Processes Related to the Fractional Black-Scholes Equation.
R. Fernández-Pascual, M.D. Ruiz-Medina and J.M. Angulo.
Computational Statistics, Vol. 18, pp. 401-415, 2003.

Fractional Generalized Random Fields on Bounded Domains.
M.D. Ruiz-Medina, J.M. Angulo and V.V. Anh.
Stochastic Analysis and Applications, Vol. 21, pp. 465-492, 2003.

Functional Stochastic Modeling and Prediction of Spatio-Temporal Processes.
M.D. Ruiz-Medina, F.J. Alonso, J.M. Angulo and M.C. Bueso.
Journal of Geophysical Research - Atmospheres, Vol. 108, No. D24, 2003,
doi:10.1029/2003JD003416, 2003, Special Section 'Application of Recent Advances in
Space-Time Statistics to Atmospheric Data (SPCTME1)'.

Wavelet-Based Functional Reconstruction and Extrapolation of Fractional Random Fields.
R. Fernández-Pascual, M.D. Ruiz-Medina and J.M. Angulo.
Test, Vol. 13, pp. 417-444, 2004.

Wavelet Orthogonal Approximation of Fractional Generalized Random Fields on Bounded
Domains.
J.M. Angulo, M.D. Ruiz-Medina and V.V. Anh.
Theory of Probability and Mathematical Statistics, Vol. 71, pp. 28-43, 2004.

Fractional Generalized Random Fields of Variable Order.
M.D. Ruiz-Medina, V.V. Anh and J.M. Angulo.
Stochastic Analysis and Applications, Vol. 22, pp. 775-800, 2004.

Fractal Random Fields on Domains with Fractal Boundary.
M.D. Ruiz-Medina, V.V. Anh and J.M. Angulo.
Infinite Dimensional Analysis, Quantum Probability and Related Topics, Vol. 7, pp. 395-417, 2004.

Joint Estimation of Spatial Deformation and Blurring in Environmental Data.
A. Goitía, M.D. Ruiz-Medina and J.M. Angulo.
Stochastic Environmental Research and Risk Assessment, Vol. 19, pp. 1-7, 2005.

A Study on Sensitivity of Spatial Sampling Designs to a Priori Discretization Schemes.
M.C. Bueso, J.M. Angulo, F.J. Alonso and M.D. Ruiz-Medina.
Environmental Modelling & Software, Vol. 20, pp. 891-902, 2005.

Fractional Kinetic Equation Driven by Gaussian or Infinitely Divisible Noise.
J.M. Angulo, V.V. Anh, R. McVinish and M.D. Ruiz-Medina.
Advances in Applied Probability, Vol. 37, pp. 366392, 2005.

Generalized Approaches to Spatial Sampling Design.
J.M. Angulo, M.D. Ruiz-Medina, F.J. Alonso and M.C. Bueso.
Environmetrics, Vol. 16, pp. 523-534, 2005 (Special Issue "Environmental and Health Statistics").

Diffusion on Multifractals
V.V. Anh, J.M. Angulo and M.D. Ruiz-Medina.
Nonlinear Analysis – Theory, Methods & Applications, Vol. 63, pp. e2043-e2056, 2005.

Estimation and prediction of a 2D lognormal diffusion random field.
R. Gutiérrez, C. Roldán, R. Gutiérrez-Sánchez and J.M. Angulo.
Stochastic Environmental Research and Risk Assessment, Vol. 19, pp. 258-265, 2005.

The Green Function and Covariance Function of Stochastic Fractional Pseudodifferential Models.
M.D. Ruiz-Medina, J.M. Angulo and V.V. Anh.
International Journal of Pure and Applied Mathematics, Vol. 22, pp. 283-310, 2005.

Spatial and Spatiotemporal Karhunen-Loève-Type Representations on Fractal Domains.
M.D. Ruiz-Medina, J.M. Angulo and V.V Anh.
Stochastic Analysis and Applications, Vol. 24, pp. 195-219, 2006.

Synthesis of Image Deformation Strategies.
K.V. Mardia, J.M. Angulo and A. Goitía.
Image and Vision Computing, Vol. 24, pp. 1-12, 2006.

Spatiotemporal Generation of Long-Range Dependence Models and Estimation.
M.P. Frías, M.D. Ruiz-Medina, F.J. Alonso and J.M. Angulo.
Environmetrics, Vol. 17, pp. 139-146, 2006.

Estimation of Intrinsic Processes Affected by Additive Fractal Noise.
R. Fernández Pascual, M.D. Ruiz-Medina and J.M. Angulo.
Journal of Multivariate Analysis, Vol. 97, pp. 1361-1381, 2006.

Wavelet-Vaguelette Decomposition of Spatiotemporal Random Fields.
M.D. Ruiz-Medina, J.M. Angulo and R. Fernández-Pascual.
Stochastic Environmental Research and Risk Assessment, Vol. 21, pp. 273-281, 2007.

Prediction and Conditional Simulation of a 2D Lognormal Diffusion Random Field.
R. Gutiérrez, C. Roldán, R. Gutiérrez-Sánchez and J.M. Angulo.
Methodology and Computing in Applied Probability, Vol. 9, pp. 413-423, 2007 (Special Issue "XI International Symposium on Applied Stochastic Models and Data Analysis").

Kalman Filtering from POP-Based Diagonalization of ARH(1).
M.D. Ruiz-Medina, R. Salmerón and J.M. Angulo.
Computational Statistics and Data Analysis, Vol. 51, pp. 4994-5008, 2007 (Special Issue "Statistics for Functional Data").

Functional Estimation of Spatio-Temporal Heterogeneities.
M.D. Ruiz-Medina and J.M. Angulo.
Environmetrics, Vol. 18, pp. 775-792, 2007 (Special Issue "METMA3 Workshop: Spatial and Spatio-Temporal Modelling").

Non-Stationary Spatial Covariance Structure Estimation in Oversampled Domains by Cluster Differences Scaling with Spatial Constraints.
J.F. Vera, R. Macías and J.M. Angulo.
Stochastic Environmental Research and Risk Assessment, Vol. 22, pp. 95-106, 2008.

Spatiotemporal Random Fields Associated with Stochastic Fractional Helmholtz and Heat Equations.
J.M. Angulo, M. Kelbert, N.N. Leonenko and M.D. Ruiz-Medina.
Stochastic Environmental Research and Risk Assessment, , Vol. 22 (SUPL.1), pp. 3-13, 2008 (Special Issue "Spatio-Temporal Modeling of Environmental and Health Processes").

Multifractality in Space-Time Statistical Models.
M.D. Ruiz-Medina, J.M. Angulo and V.V. Anh.
Stochastic Environmental Research and Risk Assessment, , Vol. 22 (SUPL.1), pp. 81-86, 2008 (Special Issue "Spatio-Temporal Modeling of Environmental and Health Processes").

Semiparametric Estimation of Spatial Long-Range Dependence.
M.P. Frías, F.J. Alonso, M.D. Ruiz-Medina and J.M. Angulo.
Journal of Statistical Planning and Inference , Vol. 138, pp. 1479-1495, 2008.

Parameter Estimation of Self-Similar Spatial Covariogram Models.
M.P. Frías, M.D. Ruiz-Medina, F.J. Alonso and J.M. Angulo.
Communications in Statistics: Theory and Methods, Vol. 37, pp. 1011-1023, 2008.

A Length-Biased Version of the Birnbaum-Saunders Distribution with Application in Water Quality.
V. Leiva, A. Sanhueza and J.M. Angulo.
Stochastic Environmental Research and Risk Assessment, Vol. 23, pp. 299-307, 2009.

Spectral-Marginal-Based Estimation of Spatiotemporal Long-Range Dependence.
M.P. Frias, M.D. Ruiz-Medina, F.J. Alonso and J.M. Angulo.
Communications in Statistics: Theory and Methods, Vol. 38, pp. 103-114, 2009.

A Latent Class MDS Model with Spatial Constraints for Non-Stationary Spatial Covariance Estimation.
J.F. Vera, R. Macías and J.M. Angulo.
Stochastic Environmental Research and Risk Assessment, Vol 23, pp. 769-779, 2009

Guest Editor, Special Issue 'Spatio-Temporal Modelling of Environmental and Health Processes'
Stochastic Environmental Research and Risk Assessment, Vol. 22 (SUPL.1), 2008.
Editorial: 'Spatio-Temporal Modelling of Environmental and Health Processes', J.M. Angulo and M.D. Ruiz-Medina, pp. 1-2.

The Effect of Nested Grid Sampling on the Parameter Estimation of a Spatial Gompertz Diffusion
R. Gutiérrez, C. Roldán, R. Gutiérrez-Sánchez and J.M. Angulo
Stochastic Environmental Research and Risk Assessment, Vol. 24, pp. 539-546, 2010

Structural Analysis of Spatio-Temporal Threshold Exceedances
J.M. Angulo and A.E. Madrid
Environmetrics, Vol 21, pp. 415-438, 2010

Multifractional Markov Processes in Heterogeneous Domains
M.D. Ruiz-Medina, V.V. Anh and J.M. Angulo
Stochastic Analysis and Applications, Vol 29, pp. 15-47, 2010

Entropy Based Correlated Shrinkage of Spatial Random Processes
J.M. Angulo, A.E. Madrid and M.D. Ruiz-Medina
Stochastic Environmental Research and Risk Assessment, Vol. 25, pp. 389-402, 2011

Constructing Space-Time PDFs in Geosciences
G. Christakos, J.M. Angulo and H.-L. Yu
Boletín Geológico y Minero, Vol. 122, pp. 531-542, 2011

Effect of Data Transformations on Predictive Risk Indicators
Alonso, F.J., Bueso, M.C., and Angulo, J.M.
Methodology and Computing in Applied Probability, Vol. 14, pp. 705-716, 2012

Spatial Threshold Exceedance Analysis through Marked Point Processes
A.E. Madrid, J.M. Angulo and J. Mateu
Environmetrics (Special Issue Paper), Vol. 23, pp. 108-118, 2012

Modeling of Space-Time Infectious Disease Spread under Conditions of Uncertainty
J.M. Angulo, H.-L. Yu, A. Langousis, A.E. Madrid and G. Christakos
International Journal of Geographical Information Science, Vol. 26, 1751-1772, 2012

Random Fields with Multifractional Regularity Order on Heterogenous Fractal Domains
M.D. Ruiz-Medina, V.V. Anh and J.M. Angulo
Stochastic Analysis and Applications, Vol. 30, 849-864, 2012

Model-Driven Development of Covariances for Spatiotemporal Environmental Health Assessment
A. Kolovos, J.M. Angulo, K. Modis, G. Papantonopoulos, J.-F. Wang and G. Christakos
Environmental Monitoring and Assessment, Vol.185, 815-831, 2013.

Spatiotemporal Infectious Disease Modeling: A BME-SIR Approach.
J.M. Angulo, H-L. Yu, A. Langousis, A. Kolovos, J-F. Wang, A.E. Madrid and G. Christakos.
PLOS ONE, Vol. 8, Article No. e72168.

A Deformation/Blurring -Based Spatio-Temporal Model
J.M. Angulo and A.E. Madrid
Stochastic Environmental Research and Risk Assessment, Vol. 28, 1061-1073, 2014.

Structural Complexity in Space-Time Seismic Event Data
J.M. Angulo and F.J. Esquivel.
Stochastic Environmental Research and Risk Assessment, Vol. 28, 1187-1206, 2014.

An Online Spatiotemporal Prediction Model for Dengue Fever Epidemic in Kaohsiung (Taiwan).
H-L. Yu, J.M. Angulo, M-H. Cheng, J. Wu and G. Christakos, Biometrical Journal, Vol. 56, 428-440, 2014.

Least-Squares Estimation of Multifractional Random Fields in a Hilbert-Valued Context
M.D. Ruiz-Medina, V.V. Anh, R.M. Espejo, J.M. Angulo and M.P. Frías
Journal of Optimization Theory and Applications, Vol. 167, 888-911, 2015.

A Multi-Criteria Police Districting Problem for the Efficient and Effective Design of Patrol Sector
M. Camacho-Collados, F. Liberatore and J.M. Angulo
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Multifractal Dimensional Dependence Assessment Based on Tsallis Mutual Information
J.M. Angulo and F.J. Esquivel
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Non-Extensive Analysis of the Seismic Activity Involving the 2011 Volcanic Eruption in El Hierro
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Quantile-Based Risk Assessment of Spatial Threshold Exceedances
J.M. Angulo, A.E. Madrid and J.L. Romero
International Conference on Advances in Extreme Value Analysis and Application to Natural Hazards (EVAN 2015)
Santander (Spain), 16-18 September 2015.

Spatiotemporal Risk Assessment of Random Field Exceedance Indicators
J.M. Angulo, A.E. Madrid and J.L. Romero
1st International Conference on Quantification of Uncertainty in Engineering, Science & Technology (QUEST 2015). Beijing (China)
Book of Abstracts, p. 20. Beijing (China), 19-21 October 2015

Data Transformation and Communication for Decision Making
A.H. El-Shaarawi, J.M. Angulo and A. Fassò
25th Conference and General Meeting of The International Environmetrics Society (TIES 2015)
Book of Abstracts, p. 27. Al Ain (United Arab Emirates), 22-25 November 2015

Mutual Information Related Measures of Multifractal Dimensional Dependence: Application to Seismicity
F.J. Esquivel and J.M. Angulo
8th International Conference of the ERCIM WG on Computational and Methodological Statistics – 9th International Conference on Computational and Financial Econometrics (CFE-CMStatistics 2015)
e-Book of Abstracts (EC1779). London (United Kingdom), 12-14 DEcember 2015

Conditional Risk Assessment in Spatial and Spatio-Temporal Settings: Effect of Covariates
J.L. Romero and J.M. Angulo
8th International Conference of the ERCIM WG on Computational and Methodological Statistics – 9th International Conference on Computational and Financial Econometrics (CFE-CMStatistics 2015)
e-Book of Abstracts (EC1773). London (United Kingdom), 12-14 December 2015

Spatiotemporal Risk Assessment of Exceedances
J.M. Angulo, A.E. Madrid and J.L. Romero
8thInternational Workshop on Spatio-Temporal Modelling (METMA VIII)
Proceedings, p.1. Valencia, 1-3 June 2016

A Spatial Partitioning of Police Districts
M. Camacho-Collados, F. Liberatore and J.M. Angulo
The 26th Annual Conference of The International Environmetrics Society.
Book of Abstracts, p.5. Edinburgh (United Kingdom), 18-22 July 2016

Effect of Transformations in Space-Time Risk Assessment
J.L. Romero, J.M. Angulo and A.E. Madrid
XXXVI Congreso Nacional de Estadística e Investigación Operativa y X Jornadas de Estadística Pública
Book of Abstracts, p. 146. Toledo (Spain), 5-7 September 2016

Divergence-Based Risk Measures: a Discussion on Sensitivity, Robustness and Extensions
J.M. Angulo and M. Xu
IV ENCUENTRO CONJUNTO RSME-SMM (RSME-SMM 2017)
Book of Abstracts, S1 Probabilidad. Valladolid, 19-22 June 2017

Spatio-Temporal Analysis Based on Multifractal Complexity Measures. Application to Seismic Data
F.J. Esquivel, F.J. Alonso and J.M. Angulo
SPATIAL STATISTICS 2017: ONE WORLD: ONE HEALTH
Proceedings. Lancaster,4-7 July 2017

Spatio-Temporal Analysis of Seismic Data Using Entropy-Based Complexity Measures in the Multifractal Domain
F.J. Esquivel, J.M. Angulo and F.J. Alonso
11th International Conference on Computational and Financial Econometrics (CFE 2017) and 10th International Conference of the ERCIM Working Group on Computational and Methodological Statistics (CMStatistics 2017)
Book of Abstracts, p. 122. London (UK), 16-18 December 2017.

Asymptotic Error Bound Approximation of Threshold Exceedance Probabilities for Non-Stationary Random Fields
J.L. Romero and J.M. Angulo
11th International Conference on Computational and Financial Econometrics (CFE 2017) and 10th International Conference of the ERCIM Working Group on Computational and Methodological Statistics (CMStatistics 2017)
Book of Abstracts, p. 237. London (UK), 16-18 December 2017.

Regularizing Asymptotic Approach for Structural Characteristics of Random Field Excursion Sets
J.L. Romero and J.M. Angulo
Workshop on 'Can Stochastic Geometry Handle Dynamics of Risk Management?'
Lund (Sweden), 18-20 April 2018

A Conditional Approach for Spatiotemporal Risk Assessment of Random Field Threshold Exceedances
J.M. Angulo, A.E. Madrid and J.L. Romero
Workshop on 'Can Stochastic Geometry Handle Dynamics of Risk Management?'
Lund (Sweden), 18-20 April 2018

Relative Complexity in the Multifractal Domain. Study of Space-Time Released Energy Distribution in the Dynamics of Seismic Events
F.J.Esquivel, .J. Alonso and J.M. Angulo
XXXVII Congreso Nacional de Estadística e Investigación Operativa y XI Jornadas de Estadística Pública (SEIO 2018)
Book of Abstracts p. 192. Oviedo (Spain), 29 May - 1 June 2018

Non-Stationary Extensions for Random Field Threshold Exceedance Asymptotic Error Bounds
J.L. Romero and J.M. Angulo
XXXVII Congreso Nacional de Estadística e Investigación Operativa y XI Jornadas de Estadística Pública (SEIO 2018)
Book of Abstracts p. 193. Oviedo (Spain), 29 May - 1 June 2018

Divergence-Based Risk Measures: a Discussion on Sensitivities and Extensions
M. Xu and J.M. Angulo
Joint Statistical Meetings 2018 (JSM2018)
Vancouver, British Columbia (Canada), 17 July – 2 August 2018

Divergence-Based Risk Measures: a Discussion on Sensitivities and Extensions
M. Xu and J.M. Angulo
Jerusalem Joint Statistical Event 2018 (Symposium in Honor of Prof. Yoav Benjamini's 70th Birthday and 10th Conference of the Eastern Mediterranean Region of the International Biometric Society (EMR-IBS))
Book of Abstracts p.14. Jerusalem (Israel), 17-20 December 2018

Risk Assessment of Random Field Threshold Exceedances
J.M. Angulo
Congreso Bienal de la Real Sociedad Matemnática Española (RSME 2019)
Abstracts Booklet S25-p7. Santander, 4-8 February 2019

Spatial Data Analysis: Information, Complexity and Risk
J.M. Angulo
Spatial Statistics 2019: Towards Spatial Data Science
Sitges (Spain), 10-13 July 2019

Informational Assessment of Log-Gaussian Cox Processes
A. Medialdea, J.M. Angulo and J. Mateu
Spatial Statistics 2019: Towards Spatial Data Science
Sitges (Spain), 10-13 July 2019

Predicción y Medición del Riesgo
J.M. Angulo
XX Encuentro Nacional de Estudiantes de Matemáticas (ENEMgranada 2019)
Granada (Spain), 22-27 July 2019

Structural Information-Complexity Transfer in Log-Gaussian Cox Processes
A. Medialdea, J.M. Angulo, J. Mateu
13th International Conference of the ERCIM WG on Computational and Methodological
Statistics (CMStatistics 2020), 19-21 December 2020, Virtual Conference

Exceedance Assessment Based on Functional Thresholds and General Spatial
Measures
J.L. Romero, A.E. Madrid, J.M. Angulo
13th International Conference of the ERCIM WG on Computational and Methodological
Statistics (CMStatistics 2020), 19-21 December 2020, Virtual Conference

Relative Complexity Assessment in Multifractal Systems: Application to Spatio-
Temporal Seismic Dynamics
F.J. Esquivel, F.J. Alonso, J.M. Angulo
13th International Conference of the ERCIM WG on Computational and Methodological
Statistics (CMStatistics 2020), 19-21 December 2020, Virtual Conference

Some Structural Aspects Related to Spatial Deformation, Threshold Exceedance and Risk in Random Fields
J.M. Angulo
Seminar on Stochastic Processes and Their Applications (SPA-SEIO Working Group)
24 March 2021 (Virtual, Invited Talk)

PhD THESES SUPERVISED

Un Estudio sobre los Problemas de Estimación, Alisamiento y Predicción de Campos Aleatorios
Francisco Javier Alonso Morales
University of Granada, Spain, 1994

Diseño de Redes de Observación en un Contexto de Espacio de Estados
María del Carmen Bueso Sánchez
University of Granada, Spain, 1996

Análisis Multiescalar de la Deformación Espacial de Imágenes
Arnaldo Goitía
University of Granada, Spain, 2003

Análisis, Representación y Simulación de Procesos Fractales Multiparamétricos
Rosaura Fernández-Pascual
University of Granada, Spain, 2003

Estimación de Modelos de Memoria Larga en Procesos Espaciales
María del Pilar Frías
University of Granada, Spain, 2004

Statistical Analysis of Extreme Values in Spatio-Temporal Processes
Ana Esther Madrid García
University of Granada, Spain, 2010

Analysis of Fractality Characteristics in Spatio-Temporal Processes. Applications to Geophysical Data
Francisco Javier Esquivel Sánchez
University of Granada, Spain, 2013

Statistical Analysis of Spatio-Temporal Crime Patterns: Optimization of Patrolling Strategies
Miguel Camacho Collados
University of Granada, 2016

Gravedad Estocástica: una Aplicación de la Teoría de la Información a un Sistema Físico Relativista
Julio Angulo Ibáñez
University of Granada, 2018

Analysis of Structural Characteristics and Extremal Behaviour of Transformed
Spatiotemporal Processes
José Luis Romero Béjar
University of Granada, 2020

VISITS TO NATIONAL AND FOREIGN CENTERS

University of California, Davis (USA). Division of Statistics.
10/1991-9/1992, 6/1993

Queensland University of Technology. Brisbane (Australia). School of Mathematics
6/8/1995-30/9/1995, 4/11/1996-5/12/1996, 10/7/1997-24/8/1997, 30/3/1998-24/4/1998,
22/7/1998-28/8/1998, 22/3/1999-23/4/1999, 21/9/2001-24/19/2001, and 20-26/9/2005

Eidgenössische Technische Hochshule Zürich (Switzerland). Seminar für Statistik
1-6/4/1996

Universidad de Santiago de Compostela (Spain). Departamento de Estadística e I.O.
16-21/12/1996, and 2-7/6/1997

University of Leeds (UK). Department of Statistics
3-8/2/1997

San Diego State University (USA). Department of Geography
11-21/9/2009

Zhejiang University (China). College of Environment and Natural Resources.
17-26/11/2012

Zhejiang University (China). Institute of Island and Coastal Ecosystems.
01-08/06/2015

Zhejiang University (China). Institute of Island and Coastal Ecosystems.
23-27/10/2015

OTHER ACTIVITIES

ERASMUS/SOCRATES Progam Coordinator for Statistics, University of Granada (past).

Coordinator of the Doctorate Program in Mathematics and Statistics of the University of Granada, since 2010. Coordinator of the Doctorate Program in Mathematical and Applied Statistics of the University of Granada, since 2013.

Referee for the following journals: *Advances in Applied Probability*; *Advances in Water Resources; Air Quality, Atmosphere & Health; Chemometrics and Intelligent Laboratory Systems; Communications in Statistics; Computational Statistics and Data Analysis; Ecological Complexity; Entropy; Environmental and Ecological Statistics; Environmetrics; Estadística; Estadística Española; Estudios de Economía Aplicada; International Journal on Health Geographics; Journal of Agricultural, Biological, and Environmental Statistics; Journal of Applied Mathematics and Stochastic Analysis; Journal of Environmental Management; Journal of Geophysical Research - Solid Earth; Journal of Statistical Planning and Inference; Metrika; Questiió; Physica A; Scientific Reports; Spanish Journal of Agricultural Research; Spatial Statistics; Statistics and Computing; Stochastic Environmental Research and Risk Assessment*; *Test.*

Associate Editor of the journals *Stochastic Environmental Research and Risk Assessment* (Springer), *Environmetrics* (Wiley*)* (past), *Chilean Journal of Statistics* (Sociedad Chilena de Estadística), *Journal of Agricultural, Biological and Environmental Statistics* (Springer) (past) and *Test* (Springer).

Co-Editor in Chief of the journal *Test* (Springer), from January 2021.

Organizer of conference METMA II (2004) (financed by grant BFM2002-12541-E, Ministerio de Ciencia y Tecnología, Spain). Member of Scientific Committee of conferences SEIO1998, geoENV'98, EMA'01, TIES2007, METMA V (2010), TIES2010, METMA VI (2012), 25th Ann. Int. Conf. on Statistics and Modeling in Human and Social Sciences (Cairo, 2013), IAMG2013, METMA VII (2014), TIES2015, METMA VIII (2016), METMA X (2021), SPASTAT2019, SPASTAT2021 (deferred to 2022).

Referee/Expert for the National Committee for Research Activity Evaluation, Spain.

Member of the Academic Board of the Spanish Society of Statistics and Operations Research (SEIO), for the period 1997-2000.

President of the Spanish Society of Statistics and Operations Research (SEIO), for the period 2010-2013.

Member of the Executive Committee of the Spanish Committee for Mathematics (CEMAT), 2009-2013.

Member of the founding Committee for the Federation of European National Statistical Societies (FENStatS).

Member of the Academy of Mathematical, Physico-Chemical and Natural Sciences of Granada, 2016.