

# BRIEF CURRICULUM VITAE

JUAN ELOY RUIZ CASTRO

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## **PROFESSIONAL DETAILS**

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## **PERSONAL DETAILS**

Gender: Male  
Date of birth: 14th of March, 1970  
Place of birth: Granada, Spain  
Present Citizenship: Spanish

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## **STUDIES**

27-07-1993	Degree in Mathematics (Statistics and Operational Research) Faculty of Science. University of Granada
18-05-1998	Ph.D. in Mathematics. Faculty of Science. University of Granada. Ph.D. Thesis: 'Markov Processes in Survival Analysis' (special award)

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## **TEACHING**

Probability, Biostatistics, Stochastic Processes, Markov Processes, Survival, Reliability, Stochastic Modeling, Operations Research, Demography, Public Statistics

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## **MAIN RESEARCH FIELDS**

- Reliability
  - Lifetime data analysis: Survival
  - Stochastic Modeling. Markov and semi-Markov processes
  - Computational Statistics
  - Matrix-geometric solutions
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Author of about 30 papers in statistical journals and books and 40 communications in statistical symposiums (see below a summary of the most important contributions)

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## RESEARCH PROJECTS

1. Markov models and its algorithmic implementation in the analysis of survival times. Ministerio de Ciencia y Tecnología. (2001-2004)
  2. Repair and maintenance systems: stochastic techniques and algorithm procedures for optimizing the performance and cost. Ministerio de Ciencia y Tecnología. (2004-2007)
  3. Matrix-analytic methods applied to the reliability and maintenance systems. Ministerio de Ciencia y Tecnología. (2007-2010)
  4. Development of functional methodologies for the statistics data analysis. Dirección General de Investigación y Gestión del Plan Nacional I+D+I (2011-2013)
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## RECENT PAPERS

1. Ruiz-Castro, J.E. (2013) A preventive maintenance policy for a standby system subject to internal failures and external shocks with loss of units. *International Journal of Systems Science*. DOI: [10.1080/00207721.2013.827258](https://doi.org/10.1080/00207721.2013.827258)
2. Ruiz-Castro, J.E. (2013) Matrix-exponential distributions: Closure properties. *International Journal of Advanced Statistics and Probability*, 1, 2, 44-52.
3. Mendoza, N.; Ruiz-Castro, J.E. and Sánchez Borrego, R. (2012). A multigenic combination of estrogen related genes are associated with the duration of fertility period in the Spanish population. *Gynecol Endocrinol*. 2012 Nov 23. [Epub ahead of print] PMID:23173577.
4. Ruiz-Castro, Juan Eloy and Fernández-Villodre, Gemma (2012). A complex discrete warm standby system with loss of units. *European Journal of Operational Research*, 218, 456-469.
5. Ruiz Castro, Juan Eloy and Quan-Lin, Li (2011). Algorithm for a general discrete  $k$ -out-of- $n$ :  $G$  system subject to several types of failure with an indefinite number of repairpersons. *European Journal of Operational Research*, 211, 1, 97-111.
6. Nicolás Mendoza, Daniela Galliano, Alberto Salamanca, Juan Eloy Ruiz Castro, Juan Mozas, Rafael Sánchez-Borrego, Francisco Quereda, Francisco Vázquez, Txantón Martínez-Astorquiza (2010). Lowering the age at menarche and risk of early menarche in a population of Spanish postmenopausal women during the past two decades. *Menopause International*, 16, 111-114.

7. Ruiz Castro, Juan Eloy; Fernández-Villodre, Gemma and Pérez Ocón, Rafael (2009). Discrete repairable systems with external and internal failures under phase-type distributions. *IEEE Transactions on Reliability*, 58, 1, 41-52.
8. Ruiz Castro, Juan Eloy; Fernández-Villodre, Gemma and Pérez Ocón, Rafael (2009). A Multi-Component General Discrete System Subject to Different Types of Failures with Loss of Units. *Discrete Event and Dynamic Systems*, 19, 31-65.
9. Ruiz Castro, Juan Eloy; Fernández-Villodre, Gemma and Pérez Ocón, Rafael (2009). A level-dependent general discrete system involving phase-type distributions. *IIE Transactions*, 41, 1, 45-56.
10. Ruiz Castro, Juan Eloy; Pérez Ocón, Rafael and Fernández-Villodre, Gemma (2008). Modelling a reliability system governed by discrete phase-type distributions. *Reliability Engineering and System Safety*, 93, 1650-1657.
11. Pérez Ocón, Rafael; Montoro Cazorla, Delia, Ruiz Castro, Juan Eloy (2006). Transient analysis of a multi-component system modelled by a General Markov Process. *Asia-Pacific Journal of Operational Research*, 23, 3, 311-327.
12. Pérez Ocón, Rafael; Ruiz Castro, Juan Eloy (2004). Two models for a repairable two-system with phase-type sojourn time distributions. *Reliability Engineering & System Safety*, 84, 253-260.
13. Ruiz Castro, Juan Eloy; Pérez Ocón, Rafael (2004). A Semi-Markov Model in Biomedical Studies. *Communication in Statistics: Theory and Methods*, 33(2), 437-455.
14. Pérez Ocón, Rafael; Ruiz Castro, Juan Eloy (2003). A Multiple-Absorbent Markov Process in Survival Studies: Application to Breast Cancer. *Biometrical Journal*, 45, 7, 783-797.
15. Pérez Ocón, Rafael; Ruiz Castro, Juan Eloy; Gámiz Pérez, M. Luz (2001). Non-homogeneous Markov Processes for Analysing the Effect of Treatments to Breast Cancer. *Statistics in Medicine*, 20, 109-122.
16. Pérez Ocón, Rafael; Ruiz Castro, Juan Eloy; Gámiz Pérez, M. Luz (2001). Non-homogeneous Markov Models in the Analysis of Survival to Breast Cancer. *Applied Statistics*, 50, 1, 111-124.
17. Pérez Ocón, Rafael; Ruiz Castro, Juan Eloy; Gámiz Pérez, M. Luz (2000). Markov Model with Lognormal Transition Rates in the Analysis of Survival Times. *TEST*, 9, 2, 353-370.
18. Pérez Ocón, Rafael; Ruiz Castro, Juan Eloy; Gámiz Pérez, M. Luz (1998). A Multivariate Model to Measure the Effect of Treatments in Survival to Breast Cancer. *Biometrical Journal*, 40, 6, 703-715.

19. Pérez Ocón, Rafael; Gámiz Pérez, M. Luz; Ruiz Castro, Juan Eloy (1998). A Study of Different Ageing Classes Via Total Time on Test Transform and Lorenz Curves. *Applied Stochastic Models and Data Analysis*, 13, 241-248.
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## BOOKS

- Juan Eloy Ruiz Castro (1998). Procesos de Markov en Análisis de Supervivencia. Ed. Universidad de Granada, Granada.
  - Pérez Ocón, R., Gámiz-Pérez, M.L., Ruiz Castro, J.E. (1998). Métodos Estocásticos en Teoría de la Fiabilidad. Ed. Proyecto Sur Ediciones, Granada.
  - García Leal, J., Lara Porras, A.M., Navarrete Álvarez, E., Rico Castro, N., Román Montoya, Y., Ruiz Castro, J.E., Sánchez Borrego, I.R. (2003). Introducción a la Estadística para Biología. Ed. Plácido Cuadros, S.L., Granada.
  - García Leal, J., Lara Porras, A.M., Navarrete Álvarez, E., Rico Castro, N., Román Montoya, Y., Ruiz Castro, J.E., Sánchez Borrego, I.R. (2003). Técnicas Estadísticas para la Investigación en Biología. Ed. Plácido Cuadros, S.L., Granada.
  - García Leal, J., Lara Porras, A.M., Navarrete Álvarez, E., Rico Castro, N., Román Montoya, Y., Ruiz Castro, J.E., Sánchez Borrego, I.R. (2004). Estadística para la Biología. Ed. Plácido Cuadros, S.L., Granada.
  - García Leal, J., Lara Porras, A.M., Navarrete Álvarez, E., Rico Castro, N., Román Montoya, Y., Ruiz Castro, J.E., Sánchez Borrego, I.R. (2006). Guía Interactiva de autoaprendizaje de SPSS. Versión 1.0. Ed. Plácido Cuadros, S.L., Granada.
  - García Leal, J., Lara Porras, A.M., Navarrete Álvarez, E., Rico Castro, N., Román Montoya, Y., Ruiz Castro, J.E., Sánchez Borrego, I.R. (2007). Técnicas Estadísticas aplicadas en Biología con SPSS. para la Investigación en Biología. Ed. Plácido Cuadros, S.L., Granada.
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## INVITED TALKS

- Algoritmización y análisis estacionario de un sistema complejo discreto  $k$ -out-of- $n$ : *G. XXXII Congreso Nacional de Estadística e Investigación Operativa*. A Coruña, 2010.
  - Preventive and corrective maintenance for a device subject to internal failures and external shocks. *5th International Conference of the ERCIM*. Oviedo, 2012.
  - Improving the performance of a complex multi-states system through random inspections. *XXIX European Meeting of Statisticians*. Budapest, 2013.
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## **PH.D. SUPERVISOR**

- Estudio de Sistemas redundantes discretos en Fiabilidad. (Author: Gemma Fernández-Calvillo Villodre). Faculty of Science. University of Granada, SPAIN, 2009.

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## **REVIEWER OF JOURNALS**

- Assisted Statistics and Applied Applications
- British Journal of Mathematics & Computer Science
- Chinese Journal of Aeronautics
- Computers & Industrial Engineering
- Computational Statistics
- European Journal of Operational Research
- IEEE Transactions on Reliability
- IIE Transactions
- International Journal of Systems Science
- Journal of Multivariate Analysis
- Journal of Statistical Planning and Inference
- Methodology & Computing in Applied Probability
- Revista Matemática Complutense

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## **EDITORIAL BOARD MEMBER**

I belong to the editorial team of the Journals:

- *International Journal of Advanced Statistics and Probability*
- *Computational Statistics*