

## **ABBREVIATED CURRICULUM**

**CV DATE:** 04/12/2020

### **PERSONAL INFORMATION:**

First and Family Name: Jesús Suárez Pérez del Río.

ID Number: 71871763Y.

Researches Codes:

WOS Researcher ID: K-2286-2014.

Open Research and Contributor ID (ORCID): 0000-0003-0003-0157.

### **CURRENT POSITION:**

Institution: University of Oviedo.

Department: Mathematics.

Address and Country: Calle Federico García Lorca, 18, 33007-Oviedo-Asturias-Spain.

Phone Number: 985103346; E-mail: [jspr@uniovi.es](mailto:jspr@uniovi.es).

Current position: Professor of University School from 12/08/1999.

UNESCO Codes: 120212, 120219.

Key words: Integrability, limit cycles, quasi-homogeneous systems, phase portraits, algebraic invariant curves.

### **EDUCATION:**

Degree in Mathematics (5 years): University of Santiago de Compostela, 1984.

PhD in Mathematics: University of Oviedo, 1996.

### **GENERAL INDICATORS OF QUALITY OF SCIENTIFIC PRODUCTION:**

Six-Years Periods of Research Activity: 3.

Date of the last approved Six-Year Period: 05/06/2019.

PhD Students: 2.

Total of publications: 17 (Web of Science).

Total of citations: 152 (WOS), 231 (Google Scholar).

5-years citation average (2016-2020): 11.6 (WOS), 17.2 (Google Scholar).

Q1-Publications: 7.

H-index: 7 (WOS, Scopus), 8 (Google Scholar).

## SUMMARY:

My research has been mainly devoted to the study of planar polynomial differential systems: structural stability, limit cycles, integrability and global dynamic. In addition, in recent years I have developed a new line of research about the intrinsic properties of quasi-homogeneous systems in dimension 2 and 3. The research carried out during these years has given rise to various publications and the doctoral theses of Belén García (2007) and Anton Lombardero (with reading scheduled for 2021) carried out under my direction.

About the impact of the results, my three most cited papers are the following:

“Averaging analysis of a perturbed quadratic center”, *Nonlinear Analysis*, 2001. Cites: 56 (WOS), 75 (Google Scholar).

“Structural stability of planar homogeneous polynomial vector fields: applications to critical points and to infinity”, *Journal of Differential Equations*, 1996. Cites: 22 (WOS), 37 (Google Scholar).

Planar quasi-homogeneous polynomial differential systems and their integrability. *Journal of Differential Equations*, 2013. Cites: 21 (WOS), 31 (Google Scholar).

## PUBLICATIONS IN THE LAST 10 YEARS:

**1. B. García, J. Llibre, A. Lombardero, J. S. Pérez del Río (2021)**, “*Analytic integrability of quasi-homogeneous systems via the Yoshida method*”, *Journal of Symbolic Computation*, 104, 960-980. DOI: 10.1016/j.jsc.2020.11.002.

**Impact Index** (JCR -WOS): 0.673. **Q4-** Mathematics, Applied (215/261).

**CiteScore** (Scopus): 2.4. **Q1-**Algebra and Number Theory (12/99).

**2. B. García, J. Llibre, A. Lombardero, J. S. Pérez del Río (2019)**, “*An algorithm for providing the normal forms of spatial quasi-homogeneous polynomial differential systems*”, *Journal of Symbolic Computation*, 95, 1-25. DOI: 10.1016/j.jsc.2018.08.006.

**Impact Index** (JCR -WOS): 0.673. **Q4-** Mathematics, Applied (215/261).

**CiteScore** (Scopus): 2.4. **Q1-**Algebra and Number Theory (12/99).

**3. B. García, A. Lombardero, J. S. Pérez del Río (2018)**, “*Classification and counting of planar quasi-homogeneous differential systems through their weight vectors*”. *Qualitative Theory of Dynamical Systems*, 17, nº3, 541-561. DOI: 10.1007/s12346-017-0253-0.

**Impact Index** (JCR -WOS): 0.986. **Q2 (T1)-** Mathematics (95/313)

**CiteScore** (Scopus): 1.7. **Q2 (T1)-**Discrete mathematics and Combinatorics (23/71).

**4. B. García, J. Llibre, J.S. Pérez del Río. (2014)**. *Limit cycles of generalized Liénard polynomial differential systems via Averaging Theory*. *Chaos, Solitons and Fractals*, 62-63, 1-9. DOI: 10.1016/j.chaos.2014.02.008

**Impact Index** (JCR -WOS): 1.488. **Q2 (T1)-** Mathematics, Interdisciplinary. Applications (29/99).

**5. B. García, J. Llibre, J.S. Pérez del Río. (2013).** *Planar quasi-homogeneous polynomial differential systems and their integrability.* Journal of Differential Equations, 255, nº 10, 3185- 3204. DOI: 10.1016/j.jde.2013.07.032.

**Impact Index** (JCR -WOS): 1.570. **Q1**-Mathematics (13/302).

**6. B. García, J. Giné, M. Grau, J.S. Pérez del Río. (2012).** *On the multiplicity of algebraic limit cycles.* Journal of Dynamics and Differential Equations. 24, nº3, 539-560. DOI: 10.1007/s10884-012-9249-2.

**Impact Index** (JCR -WOS): 0.863. **Q1**-Mathematics (58/296).

**7. B. García, J. Llibre, J.S. Pérez del Río. (2012).** *On the polynomial differential systems having polynomial first integrals.* Bulletin des Sciences Mathématiques, 136, nº 3, 309-316. DOI: 10.1016/j.bulsci.2011.11.003.

**Impact Index** (JCR -WOS): 0.569. **Q3**- Mathematics, Applied (168/247).

**8. B. García, H. Giacomini, J.S. Pérez del Río. (2011).** *Planar polynomial vector fields having a polynomial first integral can be obtained from linear systems.* Applied Mathematics Letters, 24, nº 7, 1115-1119.

**Impact Index** (JCR -WOS): 1.371. **Q1**- Mathematics, Applied (37/245).

#### **FUNDING:**

##### **1. Grant Number MINECO-18-MTM2017-87697-P.**

Title: Dynamical Systems: singularities and global complexity. Applications to biological process.

Funding Institution: Ministerio de Economía, Industria y Competitividad.

Main Researchers: Santiago Ibáñez Mesa and Antonio Pumariño Vázquez.

Date: 01/01/2018-31/12/2020.

Budget: 50.820 €. Participants: 13.

Role: Researcher.

##### **2. Grant Number MINECO-15-MTM2014-56953-P.**

Title: Dynamical complexity: chaotic behaviours, organizing centers and applications. Planar differential systems.

Funding Institution: Ministerio de Economía y Competitividad.

Main Researcher: Santiago Ibáñez Mesa.

Date: 01/01/2015-31/12/2017.

Budget: 41.382 €. Participants: 8.

Role: Researcher.

##### **3. Grant Number MICNN-12-MTM2011-22956.**

Title: Dynamical complexity: genesis and applications. Planar differential systems. Global dynamic of applications.

Funding Institution: Ministerio de Ciencia e Innovación.

Main Researcher: Santiago Ibáñez Mesa.

Date: 01/01/2012-31/12/2014.

Budget: 35.100 €. Participants: 7.

Role: Researcher.

#### **4. Grant Number MTM2008-06065.**

Title: Dynamical complexity: genesis and nature. Models in the applications. Planar polynomials vector fields.

Funding Institution: Ministerio de Ciencia e Innovación.

Main Researcher: José Ángel Rodríguez Méndez.

Date: 01/01/2009-31/12/2011.

Budget: 39.567 €. Participants: 8.

Role: Researcher.

#### **EXPERIENCE WITH ORGANIZATION OF EVENTS:**

1. XXVI Congress of Differential Equations and Applications /XVI Congress of Applied Mathematics (CEDYA/CMA), Gijón (Asturias), June 2021. Role: Member of Organizing Committee.

2. "17<sup>th</sup> Spanish-French School Jacques Louis Lions about numerical simulation in physics and engineering", Gijón (Asturias), June, 2016. Role: Member of Organizing Committee.

3. "Surfing the complexity"-A journey through dynamical systems. Oviedo (Asturias), June 2015. Role: Member of Scientific Committee and Organizing Committee.

4. Internacional Conference "Dynamical Systems: 100 years after Poincaré", Gijón (Asturias), September 2012. Role: Member of Organizing Committee.

#### **TRAINING ACTIVITIES:**

Advisor of Belén García Fernández. Her thesis was entitled "Integrability, phase portraits and limit cycles in polynomials vector fields". The date of presentation was December of 2007 and she obtained the Extraordinary Doctorate Award of University of Oviedo.

Advisor (together Belén García) of Antón Lombardero Ozores. His thesis will be presented in 2021.

#### **MANAGEMENT OF SCIENTIFIC ACTIVITY:**

Member of the Government Council of the University of Oviedo from January of 2017.

Head of Department of Mathematics of University of Oviedo from December of 2016.

Vice-head of Department of Mathematics of University of Oviedo from November of 2008 to November of 2016.

**AWARDS:** Extraordinary Doctorate Award of University of Oviedo (1996).

#### **REVIEW OF PUBLICATIONS:**

Reviewer of Mathematical Reviews from 2011 (21 reviews).

Reviewer of several international journals.