

**Part A. PERSONAL INFORMATION**

<b>CV date</b>	Sep 20th 2022
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First and Family name	Pablo Javier Tuya González		
Social Security, Passport, ID number		Age	
Researcher numbers	Researcher ID		
	Orcid code		

**A.1. Current position**

Name of University/Institution	Universidad de Oviedo		
Department	Departamento de Informática		
Address and Country	Campus de Viesques, s/n, 33204 GIJON		
Phone number	E-mail		
Current position	Full Professor	From	22/11/2011
Espec. cód. UNESCO	1203		
Palabras clave	Software Engineering, Software Testing		

**A.2. Education**

PhD	University	Year
Ingeniero Industrial	Universidad de Oviedo	1988
Doctor Ingeniero Industrial	Universidad de Oviedo	1995

**A.3. JCR articles, h Index, thesis supervised...**

Sexenios de investigación: 4, last period: 2013-2018  
 PhD Thesis last 10 years: 3 (+1 in progress)  
 JCR Journals at Q1 position: 11  
 Google Scholar: 2151 citations, h-index: 20, i10-index: 43  
 Scopus: 560 citations, h-index: 14

**Part B. CV SUMMARY** (max. 3500 characters, including spaces)

Javier Tuya obtained the PhD at the Polytechnic School of Engineering of Gijon. Currently, he is Full Professor at the Computer Science Department, University of Oviedo. His research areas in the field of **Software Engineering** are in **Software Testing**, in particular for technologies such as NoSQL databases and MapReduce paradigms. He is currently the main researcher of the project (PID2019-105455GB-C32), founded by the National R&D Programme and leader of the **Software Engineering Research Group (GIIS)** at the Oviedo University.

Over years, he has advised **9 PhD Thesis**, participated in **40 research project and networks** (16 as main researcher), **17 contracts** with companies (9 as main researcher). He has contributed to **159 conferences and workshops**, and **68 publications** and book chapters (**28 indexed in JCR**), in journals such as IEEE Transactions on Software Engineering, IEEE Transactions on Reliability, IEEE Transactions on Services Computing or Software Testing, Verification and Reliability.

Regarding management and professional activities, he held the position of **CIO at the University of Oviedo**, leading a significant modernization of the corporate Information Systems. Currently he is the Director the **Indra-University of Oviedo Chair** for Air Traffic Management Systems. He promoted the first Software Testing network at Spain and involved in the standardization of the ISO/IEC/IEEE 29119 Software Testing Standard, becoming member of the **ISO JTC1/SC7/WG26 - Software Testing** working group, and managing the national AEN/CTN71/SC7/GT26 mirror workgroup. He belongs to professional organizations such as the IEEE, IEEE/CS, ACM and SISTEDES.

## Part C. RELEVANT MERITS

### C.1. Publications (JCR)

1. María José Suárez-Cabal, Pablo Suárez-Otero, Claudio de la Riva, Javier Tuya. MDICA: Maintenance of Data Integrity in Column-oriented database Applications. *Computer Standards & Interfaces*, 83, 2023.
2. Cristian Augusto, Jesus Moran, Claudio de la Riva, Javier Tuya. RETORCH: An Approach for Resource-aware Orchestration of End-to-End Test Cases. *Software Quality Journal*, 28 1147-1171 2020.
3. Jesús Morán, Cristian Augusto, Antonia Bertolino, Claudio de la Riva, Javier Tuya. FlakyLoc: Flakiness Localization for Reliable Test Suites in Web Applications. *Journal of Web Engineering*, 19(2) 2020.
4. Jesús Morán, Claudio de la Riva, Javier Tuya. Testing MapReduce Programs: A Systematic Mapping Study. *Journal of Software: Evolution and Process*, 31 (3) 1-29, Mar 2019.
5. Pablo Suárez-Otero, María José Suárez-Cabal, Javier Tuya. Leveraging conceptual data models to ensure the integrity of Cassandra databases. *Journal of Web Engineering*, 18 257-286, June 2019.
6. J. Morán, A. Bertolino, C. de la Riva, J. Tuya. Automatic Testing of Design Faults in MapReduce Applications. *IEEE Transactions on Reliability*, 67 (3) 717-732, Sep 2018.
7. R. Blanco, J. González-Enríquez, F.J. Domínguez-Mayo, M.J. Escalona, J. Tuya. Early Testing Integration for Entity Reconciliation in the context of Big Data. *IEEE Transactions on Reliability*, 67 (2) 538-556, June 2018.
8. M.J. Suárez-Cabal, C. de la Riva, J. Tuya, R. Blanco. Incremental test data generation for database queries. *Automated Software Engineering*, 24(4) 719-755, December 2017.
9. María Teresa González-Aparicio, Muhammad Younas, Javier Tuya, Rubén Casado. Testing of Transactional Services in NoSQL Key-Value Databases. *Future Generation Computer Systems*, 80 385-399, March 2018.
10. Javier Tuya, Claudio de la Riva, M<sup>a</sup> José Suárez-Cabal, Raquel Blanco. Coverage-Aware Test Database Reduction. *IEEE Transactions on Software Engineering*, 42 (10) 941-959, October 2016.
11. Marcos Palacios, José García-Fanjul, Javier Tuya, and George Spanoudakis. Coverage-based testing for Service Level Agreements. *IEEE Transactions on Services Computing*, 8 (2) 299-313, March-April 2015.
12. Ruben Casado, Javier Tuya, Muhammad Younas. Evaluating the effectiveness of the abstract transaction model in testing web services transactions. *Concurrency and Computation - Practice and Experience*, 27 (4) 765-781, March 2015.
13. Marcos Palacios, José García-Fanjul, Javier Tuya, George Spanoudakis. Automatic test case generation for WS-Agreements using combinatorial testing. *Computer Standards and Interfaces*, 38 84-100, Feb 2015.
14. Rubén Casado, Muhammad Younas, Javier Tuya. Multi-dimensional Criteria for Testing Web Services Transactions. *Journal of Computer and System Sciences*, 79 (7) 1057-1076, Nov 2013.

### C.2. Research projects and grants

**Testing Beyond Unit and SQL (TestBUS).** Plan Nac. I+D+i (PID2019-105455GB-C32)

Duration, from: 01/06/20 to: 31/05/23 Budget: 120,516 €

Main researcher: Javier Tuya and Claudio de la Riva (Universidad de Oviedo)

**Pruebas para aplicaciones con tecnologías emergentes: Procesamiento masivo de datos y bases de datos NoSQL (TestEAMoS).** Plan Nac. I+D+i (TIN2016-76956-C3-1-R)

Duration, from: 01/01/2017 to: 31/12/2019 Budget: 144,958 €

Main researcher: Javier Tuya (Universidad de Oviedo)

Main researcher and Coordinator of the global project (3 subprojects)

**Software Testing Innovation Alliance (STIA).** One of the 4 alliances that form the project SME and Higher Education Institutes in Innovation Partnerships (SHIP) (554187-EPP-1-2014-

1-IE-EPPKA2-KA). Erasmus+ Cooperation for innovation and the exchange of good practices (KA2).

Duration, from: 1/1/2015 to: 31/12/2016 Budget: 563,362 €

Main researcher: STIA: Tanja Vos (Universidad Politécnica de Valencia), SHIP: Joe English (Louth County Enterprise Board)

**Pruebas de la persistencia de datos y perspectiva de usuario bajo nuevos paradigmas (PERTEST).** Plan Nacional de I+D+i (TIN2013-46928-C3-1-R)

Duration, from: 1/1/2014 to: 31/12/2016 Budget: 123,400 €

Main researcher: Javier Tuya (Universidad de Oviedo)

Main researcher and Coordinator of the global project (3 subprojects)

**Métodos de prueba para aplicaciones con bases de datos y servicios (Test4DBS).** Plan Nacional de I+D+i (TIN2010-20057-C03-01)

Duration, from: 01/01/2011 to: 31/12/2014 Budget: 68,001 €

Main researcher: Javier Tuya (Universidad de Oviedo)

Main researcher and Coordinator of the global project (3 subprojects)

**Red de Innovación y Transferencia en Gestión de Datos.** Plan Nacional de I+D+I (TIN2010-09979-E)

Duration, from: 01/12/2010 to: 30/11/2012 Budget: 14,000 €

Main researcher: Marta Zorrilla (Universidad de Cantabria)

**Pruebas en Líneas de Producto (PRALIN)** Plan Regional de Investigación de Castilla la Mancha (PAC08-0121-1374)

Duration, from: 01/01/2008 to: 31/12/2010 Budget: 140,000 €

Main researcher: Macario Polo Usaola (Universidad de Castilla la Mancha)

Responsible of subproject SV-09-UCLM-1

**RePRIS: Red para la Promoción y Mejora de las Pruebas en Ingeniería del Software.** Plan Nacional de I+D+i (TIN2007-30391-E)

Duration, from: 01/01/2008 to: 31/12/2009 Budget: 9,000 €

Main researcher: Javier Tuya (Universidad de Oviedo)

### C.3. Contracts

**Estudio Preliminar del Proceso de Pruebas en Indra Software Labs.**

Empresa/Administración financiadora: INDRA (CN-12-014)

Duration, from: 01/04/2012 to: 04/07/2012 Budget: 11,534 €

Main researcher: Claudio de la Riva y Javier Tuya (Universidad de Oviedo)

### C.4. Patents/Intellectual Property

Trademark 3084453(3), 3084458(4): **Test4Data®**: tool suite for SQL coverage evaluation (2013)

Intellectual Property Rights:

- **SLACT** - SLA Combinatorial Testing (2013/335)
- **DruidaTest** - Testing Database applications using an approach based on Business Rules and user Interface-Database interaction (05/2012/418)
- **SQLMutation** - Generation of mutants for SQL Database Queries (05/2010/178)
- **SQLFpc** - Generation of Full Predicate Coverage Rules for testing SQL database queries (05/2010/177)
- **QAShrink** - Query-Aware Shrink Test Databases (05/2010/176)
- **SQLTest** - Ejecución y evaluación de ejercicios de pruebas (05/2021/469)

### C.5 Program Committees

ACM/IEEE International Conference on Automation of Software Test (AST), org. chair, International Conference on Quality of Information and Communications Technology (QUATIC), IEEE International Conference on Artificial Intelligence and Testing, International Conference on Model and Data Engineering (MEDI), International Symposium on Big Data Research and Innovation (BigR&I), International Conference on Future Internet of Things and Cloud (FiCloud), Automating Test Case Design, Selection and Evaluation (ATSE), International Conference on Testing and Software Quality (Expo:QA), International

Conference on Quality Software (QSIC), International Conference on Software Engineering Advances (ICSEA), International Conference on Advanced Information Systems Engineering (CAiSE), International Symposium on Service-Oriented System Engineering (SOSE), International Workshop on Search-Based Software Testing (SBST) – ICST, International Conference on Software Process and Product Measurement, Jornadas de Ingeniería del Software y Bases de datos (JISBD)

## C.6 Journal Reviews

IEEE Transactions on Software Engineering. IEEE Transactions on Services Computing, IEEE Computer. Software Testing, Verification and Reliability. Journal of Software: Evolution and Process. Software: Practice and Experience. Software Quality Journal, Software and Systems Modelling. World Wide Web Journal. Journal of Systems and Software. Information and Software Technology. Information Sciences. Journal of Software: Evolution and Process. Applied Soft Computing, Journal of Information Processing Systems. IET Software. International Journal of Agent-Oriented Software Engineering. Computers & Security. International Journal of Management Science: Omega. Environmental modelling & software

## C.7 Standardization & Evaluation activities

- ISO/JTC1/SC7/WG26 - Software Testing, member of international working group 2008-2020
- AEN/CTN 71/SC 7/GT 26 – Ingeniería de Software y Sistemas de Información / Pruebas del Software. Working group convenor, 2008-2020
- AEN/CTN 71/SC 7 - “Tecnología de la Información / Ingeniería de Software y Sistemas de Información”, Subcommittee member, from 2008-2020
- AEN/CTN 71/SC 38 - “Tecnología de la Información / Servicios y plataformas para aplicaciones distribuidas”, Subcommittee member, 2011-2021
- Expert panel of the ACADEMIA program (Evaluación Acreditación Titulares de Universidad), from 2008
- Commission for professor evaluation, Agencia para la Calidad del Sistema Universitario de Castilla y León, from 2015. As secretary from 2022
- Commission for R&D projects assessment, Ministerio de Ciencia e Innovación, Agencia Estatal de Investigación, Área TIN, 2011, 2015, 2016, 2019, 2022
- Project Assessments: ANEP & Agencia Estatal de Investigación, from 1996
- Project Assessments: Consellería de Industria de la Xunta de Galicia, 2008-2010, 2016
- Project Assessments: Agencia Andaluza del Conocimiento, 2011, 2021

## C.8 Academic responsibilities

- Director of the Indra-Universidad de Oviedo chair. Since October 2011
- Chief Information Officer (Director de Área de Informática). Vicerrectorado de Calidad e Innovación. Universidad de Oviedo. June 16th 2000 – May 29th 2004
- Vice-Principal of E.T.S. de Ingenieros Industriales e Ingenieros Informáticos de Gijón. Universidad de Oviedo. March 14th 1997 – June 15th 2000.

## C.9 Other professional activities

- Technical expert for accreditation audits in laboratories. Entidad Nacional de Certificación y Acreditación (ENAC). Software testing audits according UNE-EN ISO/IEC 17025:2005. Since 2013
- Professional Certification: Test Management (TMAP® Next Foundations) – Examination Institute for Information Science, December 9th 2008
- Technical committees for public contracts assessments: Principado de Asturias y Universidad de Oviedo.