



CURRICULUM VITAE (CVA)

IMPORTANT – The Curriculum Vitae cannot exceed 4 pages. Instructions to fill this document are available in the website.

Part A. PERSONAL INFORMATION

CV date 26/5/2026

First name	Oscar		
Family name	Pedreira Fernández		
Gender (*)	Male	Birth date (dd/mm/yyyy)	
Social Security, Passport, ID number	DNI:		
e-mail		URL Web	
Open Researcher and Contributor ID (ORCID) (*)			

(*) Mandatory

A.1. Current position

Position	Titular de Universidad		
Initial date	14-09-2021		
Institution	Universidad de A Coruña		
Department/Center	Dept. of Computer Science		
Country	Spain	Teleph. number	
Key words	Sw. Engineering, Sw.Process, Data Engineering, GIS.		

A.2. Previous positions (research activity interruptions, art. 14.2.b))

Period	Position/Institution/Country/Interruption cause

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
PhD. in Computer Science	Universidade da Coruña	2009
BSc. + MSc. In Computer Science	Universidade da Coruña	2006

Part B. CV SUMMARY (max. 5000 characters, including spaces)

Óscar Pedreira obtained his PhD in Computer Science from the University of A Coruña (UDC) in 2009. In 2008 he received an FPU grant. He is an Associate Professor of the Dept. of Computer Science and IT at UDC (since 2021) and a member of the Database Lab (competitive reference group by Xunta de Galicia). His research has focused on different lines of Software Engineering and Data Engineering.

In the field of Software Engineering (SE), he has worked in the lines of software quality, process improvement, gamification in SE environments, DevOps, and advanced software technologies in MDE and SPLE. As a summary, his most relevant contributions in the field include: a proposal for process improvement in SMEs based on agile methodologies, a general methodology and technological framework for the application of gamification in SE, a maturity model to assess DevOps practices in software organisations, a framework for the automatic generation of oracled test cases, and different works that apply MDE and SPLE technologies to semi-automate the development of Geographic Information Systems (GIS).

In the field of Data Engineering, his research has focused on designing algorithms and data structures for efficiently processing large volumes of data of different types. As a summary, his main contributions in this field include: algorithms for the selection of efficient indexing objects for similarity search in unstructured databases, a model for the automatic and declarative generation of graphs from unstructured data, and indexing data structures for graph data, RDF and geographical information. He has been a member of the SISAP (Similarity Search and Applications) community since its creation in 2008 and was the organisation chair of the Int. Conf. on SISAP in 2013 and general chair in 2023.

His research results are published in conferences and journals that are relevant and well-considered in his research fields. As a summary, his publications include: two volumes of the LNCS series of Springer (proceedings of SISAP 2013 and 2023), 1 book, 1 book chapter, 21 articles in journals indexed in JCR (among others, in Journal of Systems and Software, Information and Software Technology, Software and Systems Modelling, Journal of Software: Evolution and Process, Journal of Web Engineering, Information Systems, Knowledge and Information Management, Multimedia Tools and Applications, Information Sciences), 8 publications in other journals, and 55+ publications in conferences (some of them include SPLC, Models Workshops, HICSS, ADBIS, DEXA, SSDBM, QUATIC, or ICDE Workshops).

His research works have received 2.053 citations (G. Scholar), many of them from works published in prestigious forums and journals (e.g., VLDB journal), and has a h-Index 19. He has participated in 4 research projects of the national R&D plan, as a researcher in two of them, and as the Co-IP of the OASSIS project from 2022 to 2025, as Co-IP of the BizDevOps project from 2018 to 2021, and as part of the research team in 4 R&D projects funded by Xunta de Galicia and AEI. He has co-advised 5 PhD theses and is currently co-advising one more.

He has maintained an intense technology transfer activity. He is a founding partner of the spin-off Novaware, and a partner of the spin-off of Enxenio (responsible for quality, processes, and certifications in security, project management, and R&D). His most relevant projects in this area are: Co-IP of LPS-BIGGER (CDTI, CIEN), GIRO (CDTI, Interconecta), GEMA (Xunta Galicia), and researcher in SMACTesting (CDTI, Interconecta), and GOVINDA (CDTI, Interconecta). In summary, Co-IP of projects for a total of 1.6+ M€, and researcher in projects for a total of ~3 M€, for companies such as Indra, Yahoo, or PRISA, among others.

Regarding periodical performance evaluations, he has obtained: 3 quinquenios, 2 research sexenio (6 years), and 1 transfer sexenio. He was vice-dean of academic organization of the Faculty of Computer Science from 2018 to 2025.

Part C. RELEVANT MERITS (sorted by typology)

C.1. Publications (see instructions)

1. Antonio Fariña, Olivia Poy, Nieves R. Brisaboa, Coral Calero, María Ángeles Moraga, Oscar Pedreira: *Onto how compression yields energy-efficient text search*. Computing 107(5): 122 (2025). JCR Q2
2. Manal Kharbouch, Aurora Vizcaíno, José Alberto García-Berná, Félix García, Ambrosio Toval, Oscar Pedreira, Ali Idri, José Luis Fernández-Alemán: *Uncharted dimensions, gaps, and future trends of serious games in software engineering*. Computer Standards and Interfaces 92: 103915 (2025). JCR Q1
3. Delfina Ramos-Vidal, Wesley K. G. Assunção, Alejandro Cortiñas, Miguel R. Luaces, Oscar Pedreira, Ángeles Saavedra Places: *SPL-DB-Sync: Seamless database transformation during feature-driven changes*. Journal of Systems and Software. 222: 112285 (2025). JCR Q1
4. David de Castro, Alejandro Cortiñas, Miguel R. Luaces, Oscar Pedreira, Ángeles Saavedra Places: *Local features: Enhancing variability modeling in software product lines*. Journal of Systems and Software. 213: 112035 (2024). JCR Q1

5. Eduardo Sanjurjo, Oscar Pedreira, Félix García, Mario Piattini: *Assessing BizDevOps maturity using international standards: Case studies and lessons learned*. Journal of software: evolution and process (JSEP), 36(8) (2024). JCR Q3
6. Alvarado, S. H.; Cortiñas, A.; Luaces, M.; Pedreira, O.; Places, A. S. (2022). *Multilevel modelling of geographic information systems based on international standards*, in Software and Systems Modelling (SoSym), 21: 623-666. Springer. JCR Q3.
7. Pedreira, O.; Ramos, D.; Cortiñas, A.; Luaces, M.; Places, A.S. (2021). *Development of Digital Libraries with Software Product Line Engineering*, in Journal of Web Engineering (JWE), 20(7): 2017-2058. River Publishers. JCR Q4.
8. Polo, M.; Pedreira, O.; Places, A. S.; Garcia-Rodríguez, I. (2020). *Automated generation of oracled test cases with regular expressions and combinatorial techniques*, in Journal of software: evolution and process (JSEP), 32(12):e2273. Wiley and Sons. JCR Q3.
9. Alvarado, S. H.; Cortiñas, A.; Luaces, M. R.; Pedreira, O.; Places, A. S. (2020). *Developing web-based geographic information systems with a DSL: proposal and case study*, in Journal of Web Engineering (JWE), 19 (2):167-194. River Publishers. JCR Q4.
10. Brisaboa, N., Cerdeira-Pena, A., de Bernardo, G., Navarro, G., Pedreira, O. (2020). *Extending general compact queryable representations to GIS applications*. In Information Sciences, 506:196-216. Elsevier. JCR Q1.
11. Pedreira, O.; García, F.; Piattini, M.; Cortiñas, A.; Cerdeira-Pena, A. (2020). *An architecture for software engineering gamification*, in Tsinghua Science and Technology (TST), 25(6):776-797. Tsinghua University Press. JCR Q2.
12. Álvarez-García, S., Freire, B., Ladra, S., Pedreira, O. (2019). *Compact and efficient representation of general graph databases*, in Knowledge and Information Systems (KAIS), 60(3):1479-1510. Springer. JCR Q1.

C.2. Congress

1. José Antonio Ortega, Oscar Pedreira, Mario Piattini (2024): *Adaptive Governance Model with a Sociotechnical Approach*. Procs. Of Hawaii Int. Conf. on System Sciences 2023: 5877-5886. SCIE Class 2.
2. José Antonio Ortega, Oscar Pedreira, Mario Piattini: *Adaptive Portfolio Management Based on Complexity Theory and Sociotechnical Design*. Procs. Of Res. Conf. on Inf. Sys (RCIS). 2024: 357-375. CORE B
3. Cortiñas, A.; Jacob Krüger; Lamas Sardiña, V.; Luaces, M. R.; Pedreira, O.: "How to Retire and Replace a Software Product Line", en Procs. of the 27th ACM Int. Systems and Software Product Line Conf. (SPLC), ACM, 2023, pp. 275-286. CORE B. SCIE Class 2.
4. De Castro Celard, D.; Cortiñas, A.; Luaces, M. R.; Pedreira, O.; Places, A. S.: "Improving the Customization of Software Product Lines through the Definition of Local Features", en Proceedings of the 26Th ACM Int. Systems And Software Product Line Conference (SPLC 2022), ACM, 2022, pp. 199-209. CORE B. SCIE Class 2.
5. Cortiñas, A.; Luaces, M. R.; Pedreira, O.: "spl-js-engine: a JavaScript tool to implement Software Product Lines", en Proceedings of the 26Th ACM Int. Systems And Software Product Line Conference (SPLC 2022), ACM, 2022, pp. 66-69. CORE B. SCIE Class 2.
6. Marchand-Maillet, S., Pedreira, O., Chávez, E. (2021). *Structural Intrinsic Dimensionality*. In Procs. of Similarity Search and App. (SISAP), pp.173.185. LNCS. Core B.
7. Sanjurjo, E., Pedreira, O, García, F., Piattini, M. (2020). *Measuring the Maturity of BizDevOps*. In Procs. of Int. Conf. on Quality of Inf. and Comm. Tech. (QUATIC), pp. 254-267. Core C.
8. Cortiñas, A., Luaces, M. R., Pedreira, O., Places, A. S. (2017). *Scaffolding and in-browser generation of web-based GIS applications in a SPL tool*. In Procs. of Int. Conf. Sw. Product Line Conf. (SPLC) 2017: 46-49. Sevilla (Spain). CORE B. SCIE Class 2.
9. Cortiñas, A., Luaces, M. R., Pedreira, O., Places, A. S., Pérez, J. (2017). *Web-based Geographic Information Systems SPLE: Domain Analysis and Experience Report*. In

Procs. of Int. Conf. Sw. Product Line Conf. (SPLC) 2017: 190-194. Sevilla (Spain). CORE B. SCIE Class 2.

10. Mancebo, J., García, F., Pedreira, O., Moraga, M. A. (2017). *BPMS-Game: Tool for Business Process Gamification*. In *Procs. Int. Conf. on Business Process Manag. Forum (BPM)* 2017:127-140. Barcelona (Spain).

C.3. Research projects

1. PID2021-122554OB-C33: "OASSIS-UDC: Hacia organizaciones software más sostenibles: Un enfoque holístico para promover la sostenibilidad económica, humana y medioambiental", Ministerio de Ciencia e Innovación. Call "Generación de conocimiento 2021". Duration: 2022 to 2025. Budget: 135.520 €. **Participation: co-IP (principal investigator).**
2. RTI2018-098309-B-C32: "BIZDEVOPS-GLOBAL: Un framework tecnológico y metodológico sostenible para el desarrollo de software alineado con negocio en DevOps Global", Ministerio de Ciencia, Innovación y Universidades, Call "Retos de Investigación 2018". Duration: January 2019 to December 2022. Budget: 108.900 €. **Participation: co-IP (principal investigator).**
3. TIN2015-69951-R: "Etiquetado de trayectorias de objetos móviles para su explotación eficiente en RDF Data Cube comprimido". Ministerio de Economía y Competitividad, Convocatoria Retos de la Sociedad 2015. IPs: A. S. Places and A. Fariña. Duration: 2016 to 2018. Budget. 58.554 €. Participation: researcher.
4. KEYSTONE (COST-IC1302); "Semantic keyword-based search on structured data sources (KEYSTONE)"; Cost Action: EU; IP: Francesco Guerra (University of Modena and Reggio); Variable funding: >120.000€/year. 2013 to 2017. Participation: researcher.
5. TIN2013-47090-C3-3-P: "Voxpopuli: Analisis eficiente de la reputación, propagación y recomendación en entornos de redes sociales"; MINECO 2013; IPs: A. Fariña and A. S. Places (UDC). Duration: 2014 to 2015 Budget: 38.297 €. Participation: researcher.
6. TIN2009-14560-C03-02: "Procesado de alto rendimiento de grandes conjuntos de datos representados como Grafos", MICIN, Convocatoria Plan Nacional 2009. IP: Nieves R. Brisaboa. Duration: 2010 a 2014. Budget: 230.868 €; Participation: researcher.

C.4. Contracts, technological or transfer merits

1. Contract: GEMA: "Contrato de colaboración para el desarrollo del proyecto de investigación "GEMA: Gestión de la movilidad " entre la FCITICG". Contrato con Enxenio S.L., proyecto financiado en la convocatoria pública y competitiva ConectaPEME, de la Xunta de Galicia. **Participación: Co-IP.**
2. Contract: GIRO: "Contrato de colaboración para el desarrollo del proyecto GIRO: generación, gestión e integración de rutas en OLAP"; A0 Mayores, Grupo On, Mugatra, Gesuga, Taprega, Biogas, UDC. Programa FEDER Interconecta. **Participation: Co-IP.**
3. Contract: 15/06 LPS-BIGGER; "Contrato para el desarrollo del proyecto de investigación "LPS-BIGGER: Línea de productos software para BIG data a partir de aplicaciones innovadoras en Entornos Reales"; Indra Software Labs - CDTI; Nieves R. Brisaboa, Óscar Pedreira (UDC); 484.000€; 1/9/2014 a 31/12/2017. Participation: researcher.
4. Contract: 12/13 GOAL Indra: "Contrato entre Indra Software Labs e CITIC en el marco del proyecto Feder Innterconecta, convocatoria 2013 Galicia, "GOAL"; Indra Software Labs, Programa Feder Interconnecta 2013, CDTI; Nieves Rodríguez Brisaboa (UDC); 153.670 €; 5/4/2013 a 31/12/2014; **Participation: technical principal researcher.**
5. Partner of spin-off: Enxenio S.L. company focused on software development services. Joined the company in 2008 — primary responsibility: responsible for organisational processes and quality. Currently employs 35+ people.