



Part A. PERSONAL INFORMATION

CV date	31/12/2024
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First name	Antonio		
Family name	Fariña Martínez		
Gender (*)		Birth date (dd/mm/yyyy)	
ID number			
e-mail			
Orcid:	Researcher ID:	Scopus:	

(*) Mandatory

A.1. Current position

Position	Associate Professor (<i>Prof. Titular de Universidad</i>)		
Initial date	2012-07-24		
Institution	Universidade da Coruña (UDC)		
Department/Center	Computer Science and Inf. Technology	Facultade de Informática	
Country	Spain	Phone. number	
Key words	Compression, Indexation, Compact Data Structures, Algorithms, GIS, Green Data Structures		

A.2. Previous positions

Period	Position/Institution/Country/Interruption cause
08/10/2001-18/02/2002	Hired Professor (Asociado T.C.) /U. Zaragoza/Spain/ Phd grant
01/10/2005-20/09/2006	Assistant Lecturer (<i>Ayudante</i>) /UDC/Spain/promotion
01/10/2006-27/05/2008	Assistant Professor (<i>Ayudante Dr.</i>) /UDC/Spain/promotion
28/05/2008-23/07/2012	Associate Professor (Contratado Dr.) /UDC/Spain/promotion

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
BSc + MSc in Comput. Eng.	University of A Coruña/Spain	2000
PhD In Computer Science	University of A Coruña/Spain	2005

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

Recently graduated, I join Database Lab (LBD) at UDC in 2000. During 4 years, I complete my PhD studies and participate in projects and contracts (EIEL-GIS & Digital Libraries) that allow me to obtain my first publications in GIS and DL. In those lines I will obtain **3** JCR publications ([SPE'07](#), [OIR'07](#) y [MTAP'16](#)); and **1** CORE-A conference ([PACIS 2016](#)).

In 2003, being a pre-doctoral fellow, I made my first stay with Professor Gonzalo Navarro (U. Chile), a brilliant researcher in computer science (>31,000 citations and H-index=82), and started a research line in "Compression and Text Retrieval" in which I presented my PhD thesis in 2005 (awarded with Extraordinary Doctorate Award in Computer Sciences by the UDC). and where our works gained international relevance with publications in conferences such as SPIRE'03-04, ECDL'05, SIGIR'05 (2nd Spanish paper published in SIGIR), PSI'06, DCC'10, DCC'12, and DCC'19; and **5** JCR articles [Inf-Retrieval'07](#), [SPE'08](#), [TOIS'10](#), [IPM'11](#) and [IPM'14](#). Our compressors were cited by authors such as A. Moffat, and books such as: Introduction to information retrieval (Raghavan et al, 2008), or Modern Information Retrieval (Baeza et al, 2011).

In 2007, I started another research line on "text self-indexing and compact data structures" that is still active and has led to **6** JCR articles: [TOIS'12](#), [Computer-Journal'12](#), [Inf-Retrieval'12](#), [Inf-](#)



Sys'16, Inf-Sys'19, TCS'22 and papers in conferences such as SIGIR'08, SPIRE'08, DCC'08, BIBE'10, CIKM'11, and SPIRE'16. In addition, derived from this line, we have created compact data structures to handle RDF collections (SPIRE'15, DCC'16, DCC'20, IJFS'20, J.SuperComput'23, KAIS'24); temporal graphs (SPIRE'14, SPIRE'18, KAIS'16, Inf-Sci'18); temporal rasters (SPIRE'18), and trajectories of moving objects (SPIRE'16, SPIRE'18, DCC 2019, Inf-Sys'18, IEEE-Perv-Comp'22, Inf-Sci'22). In this line, I have co-advised **4 PhD thesis**.

To sum up, my research work has led to **23 JCR journals**; **12** papers in CORE-A*/A conferences, and **11** in CORE-B conferences. I have also 7 papers in electronic/non-indexed journals; **2** book chapters; and more than **30** papers in other conferences. My h-index is 22 (google-scholar), 12 (WoS), 16 (scopus); and my papers have received 1265 citations (google-scholar), 435 (WoS-pubons), 637 (scopus).

I have been a reviewer in **JCR journals**: J. Syst Softw. (2024), Inf Sys (2024), BigDataRes (2022), IEEE-TIT (2022), Computing (2021), VLDB (2020), Computer Journal (2011, 2019, 2020), Software-Practice & Experience (2014, 2016). Frontiers of Information Tech. & Electronic Engineering (2015); IETE Journal of Research (2016); and others; and in **relevant conferences** such as ACM CIKM (2014), ACM SIGIR (2011-13, 2015); ISAAC (2013); DCC (2010-13, 2016-22, 2024); ECIR (2020), SEA (2017, 2024); EDBT (2017); WWW (2018); SPIRE (2018-19, 2021-24). In addition, I have been member of the program committee of conferences such as SPIRE, ECIR, MEDES, MDMM, AICCSA, CACIC, ICEIS, SMAP, JIDEE, JISBD or CERI. I was also **Local Committee co-chair of SPIRE'2019**.

Within the LBD, I have joined my research with innovative developments, both in research projects, and within R&D contracts, where we directly applied our research results (I own **1** software registry) or we developed complex information systems. Regarding transfer of knowledge, it is also worth mentioning that I am a **founding partner** of ENXENIO S.L, spin-off of the UDC, created in 2003 along with 8 other professors. It is still active nowadays.

I have led **4** research projects (341,281€) and participated in **13** research projects (> 2.0M €); I have led **2** R&D contracts (130,500€) and participated in more than 30 (> 4.5M €). In addition, I have participated in the activities of 15 research networks: national (11) and international (4); I have also been a member of the Spanish **Management Committee** of the COST IC1302 project, which allowed me to join 2 new applications for European projects (not accepted) COST 0C-2018-1-22924 and COST 0C-2018-1-22782. I have also been member of the evaluation committees of national (Israel), regional (Andalusia), and local (*Provincial council of A Coruña*) research projects.

Thanks to my work, I have been awarded **3 sexenios** (six-year research period), the last one for the period until 31-12-2019; and due to my implication in transference of technology/knowledge to the society I have been awarded **1 transfer sexenio** (the maximum possible) including the period from 2000 to 2009. I have been teaching for almost 19 years, obtaining **3 quinquenios** (five-years teaching period), and good results in 2 **docentia calls** (*Excellent in 2015, and Remarkable in 2020*). Finally, I have obtained a **positive evaluation as Full Professor** (*Acreditación para Catedrático de Universidad*) by the National Agency for Quality Assessment and Accreditation (ANECA) in October, 2022.

Part C. RELEVANT MERITS (sorted by typology)

C.1. Publications

1. Cerdeira-Pena, A.; de Bernardo, G.; Fariña, A.; Fernández, J.D.; Martínez, A.: (2024) "Compressed and Queryable Self-Indexes for RDF Archives", **Knowledge and Information Systems** **66**, pp.381-417. [JCR Q3, IF: 2.7](#)



2. Brisaboa, N.; Cerdeira, A.; de Bernardo, G.; Fariña, A.; Navarro, G.: (2023) "Space/time-Efficient RDF Stores based on Circular Suffix Sorting", **Journal of Supercomputing** 79, pp. 5643-5683. [JCR Q2, IF: 3.3](#)
3. Brisaboa, N.R.; Fariña, A.; Galaktionov, D.; Rodeiro, T.V.; Rodríguez, A.: (2022) "Improved structures to solve aggregated queries for trips over public transportation networks"; **Information Sciences** 584, pp.752-783. [JCR Q1, IF: 8.1](#)
4. Fariña, A.; Gutiérrez-Asorey, P.; Ladra, S.; Penabad, M.R.; Rodeiro, T.V.: (2022) "A Compact Representation for Indoor Trajectories"; **IEEE Pervasive Computing** 21(1), pp. 57-64. [JCR Q4, IF: 1.60](#)
5. Fariña, A.; Gagie, T.; Grabowski, S.; G. Manzini; Navarro, G.; Ordóñez, A.: (2022) "Efficient and Compact Representations of Some Non-Canonical Prefix-Free Codes", **Theoretical Computer Science**, 907, pp.11-25. [JCR Q4, IF: 1.00](#)
6. Fariña, A.; Martínez-Prieto, M.; Claude, F.; Navarro, G.; Lastra, J.; Prezza, N.; Seco, D.: (2019) "On the Reproducibility of Experiments of Indexing Repetitive Document Collections", **Information Systems**, 83, pp. 181-194. [JCR Q3, IF: 2.47](#)
7. Brisaboa, N.; Fariña, A.; Caro, D.; Rodríguez, A.: (2018) "Using Compressed Suffix-Arrays for a Compact Representation of Temporal-Graphs", **Information Sciences**, 465, pp. 459-463. [JCR Q1, IF: 5.52](#)
8. Places, A. S.; Fariña, A.; Luaces, M. R.; Pedreira, O.; Seco, D.: (2016) "A workflow management system to feed digital libraries: proposal and case study", **Multimedia Tools & Applications** 75(7), pp. 3843-3877. [JCR Q2; IF 1.53](#)
9. Claude, F.; Fariña, A.; Martínez, M.P.; Navarro, G.: (2016) "Universal Indexes for Highly Repetitive Document Collections", **Information Systems** 61, pp 1-23. [JCR Q2, IF: 2.77](#)
10. Caro, D.; Rodríguez, A.; Brisaboa, N.; Fariña, A.: (2016) "Compressed Kd-tree for temporal graphs". **Knowledge and Information Systems**, 49(2), pp. 553-595. [JCR Q2, IF: 2.00](#)

C.2. Congress Publications

Papers accepted and presented in Relevant International Conferences

1. Brisaboa, N.; Fariña, A.; Navarro, G.; Rodeiro, T.V.: "Sematrix: A compressed semantic matrix", Proc. Data Compression Conference 2020 (**DCC**), pp. 113-122. Snowbird, Utah, USA. [ICore A*; GGS-class-3](#)
2. Brisaboa, N.; Fariña, A.; Cerdeira, A.; De Bernardo, G.: "Revisiting compact RDF stores based on k2-trees", Proc. Data Compression Conference 2020 (**DCC**), pp. 123-132. Snowbird, Utah, USA. [ICore A*; GGS-class-3](#)
3. Brisaboa, N.; Fariña, A.; G-Brandón, A.; Navarro, G.; V-Rodeiro, T.: "Dv2v: a Dynamic Variable-to-Variable Compressor", Proc. Data Compression Conference 2019 (**DCC**), pp. 83-92. Snowbird, Utah, USA. [ICore A*; GGS-class-3](#)
4. Brisaboa, N.; Fariña, A.; Galaktionov, D.; Rodeiro, T.V.; Rodríguez, M. A.: "New structures to solve aggregated queries for trips over public transportation networks", Proc. **SPIRE** 2018, LNCS 11147, pp 85-98. Lima, Peru. [ICore B; GGS-class-3](#)
5. Cerdeira, A.; de Bernardo, G.; Fariña, A.; Paramá, J.R.; Silva F.: "Towards a compact representation of temporal raster", Proc. **SPIRE** 2018, LNCS 11147, pp 113-125. Lima, Peru. [ICore B; GGS-class-3](#)
6. Cerdeira-Pena, A.; Fariña, A.; Fernández J.; Martínez-Prieto, M.: "Self-indexing RDF archives", Proc. Data Compression Conference 2016 (**DCC**), pp. 526-535. Snowbird, Utah, USA. [ICore A*; GGS-class-2](#)
7. Brisaboa, N.; Fariña, A.; Galaktionov, D.; Rodríguez, A. "Compact Trip Representation over Networks", Proc. **SPIRE** 2016, LNCS 9954, pp 240-253. Beppu, Japan. [ICore B; GGS-class-3](#)
8. Brisaboa, N.; Cerdeira, A.; Fariña, A.; Navarro, G.: "A Compact RDF Store using Suffix Arrays", Proc. **SPIRE** 2015, LNCS 9309, pp 103-115. London, UK. [ICore B; GGS-class-3](#)
9. Brisaboa, N.; Caro, D.; Fariña, A.; Rodríguez, A.: "A Compressed suffix-array structure for Temporal-Graph Indexing", Proc **SPIRE** 2014, LNCS 8799, pp 77-88. Ouro Preto, Brazil. [ICore B; GGS-class-3](#)
10. Fariña, A.; Paramá, J.; Ordóñez, A.: "Indexing sequences of IEEE 754 double precision numbers", Proc. Data Compression Conference 2012 (**DCC**), pp. 367-376. Snowbird, Utah, USA. [ICore A*; GGS-class-2](#)

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". MICINN/FEDER; Antonio Fariña (UDC) & Óscar Pedreira (UDC); **135,520€**; 2022/09/01 to 2025/12/31; [participating as CO-PI \(co-Principal-Investigator\)](#)
2. ED431C-2021/53; "Consolidación y estructuración de unidades de investigación competitivas-Modalidad Grupos de Referencia Competitiva"; Xunta de Galicia; Nieves R. Brisaboa (UDC); **320,000 €**; 2021/1/1 to 2024/10/24; [participating as researcher](#).
3. RTI2018-098309-B-C32; "BIZDEVOPS-GLOBAL: framework tecnológico y metodológico sostenible para el desarrollo de software alineado con el negocio en Devops Global". MINECO/FEDER; Antonio Fariña (UDC) & Óscar Pedreira (UDC); **108,900 €**; 2019/01/01 to 2022/12/31; [participating as CO-PI](#).
4. TIN2015-69951-R; "Etiquetado de Trayectorias de objetos móviles para su explotación eficiente en RDF Data Cube comprimido". MINECO/FEDER; Antonio Fariña (UDC) & Ángeles S. Places (UDC); **58,564 €**; 2016/1/1 to 2019/12/31; [participating as CO-PI](#).
5. BIRDS (MSCA-RISE-2015 GA No 690941); "Bioinformatics and Information Retrieval Data Structures Analysis and Design". European Commission - Research Executive Agency (REA) (H2020-MSCA-RISE-2015); Susana Ladra (UDC); **648,000 €**; 2016/1/1 to 2019/31/12; [participating as researcher](#).
6. ED431G/01; "Ayudas para la acreditación, estructuración y mejora de centros de investigación singulares y agrupaciones estratégicas consolidadas del Sistema universitario de Galicia"; Xunta de Galicia (FEDER Galicia 2014-2020); Manuel F. G. Penedo (CITIC); **1,785,000 €**; 2016/1/1 to 2019/11/30; [participating as CITIC researcher](#).
7. TIN2013-47090-C3-3-P; "VOXPOPULI: Análisis eficiente de la reputación, propagación y recomendación en entornos de redes sociales-UDC"; MINECO; Antonio Fariña (UDC) & Ángeles S. Places (UDC); **38,297 €**; 2014/1/1 to 2016/12/31; [participating as CO-PI](#).
8. COST-IC1302; "Semantic keyword-based search on structured data sources (KEYSTONE)"; Cost Action: EU; Francesco Guerra (University of Modena and Reggio - Italia); **559,372 €**; 2013/10/15 to 2017/12/14; [participating as member of the Spanish Management Committee](#) along with Raquel Trillo (Univ. Zaragoza).

C.4. Contracts, technological or transfer merits

1. F17/09 INTELIDATA; "Contrato para el desarrollo del proyecto Intelidata"; Asociación Inserta Innovación; Miguel R. Luaces; Susana ladra (UDC); **72.085 €**; 2023/09/18 to 2024/12/31.
2. IN852A 2018/14 InnovaPEME; "Contrato de colaboración para el desarrollo del proyecto de investigación "GEMA: Gestión de la movilidad" entre la FCITICG y Enxenio S.L. en el Marco del Programa Conecta-PEME, Xunta de Galicia"; Enxenio S.L.; Óscar Pedreira; [Antonio Fariña \(UDC\)](#); **50,000 €**; 2018/04/01 to 2022/02/18.
3. F17/09 InnovaPEME; "Contrato de colaboración para el desarrollo del Plan de Innovación de Enxenio 2017-2018"; Enxenio S.L., call InnovaPEME 2017, grant 108_IN848D_2017_2350417, GAIN, Xunta de Galicia; Óscar Pedreira (UDC); **45,980 €**; 2017/10/15 to 2018/11/30.
4. CITIC 15/31 & 15/32 SMACTESTING; "Contrato para desarrollo proyecto SMACTESTING tecnologías para la automatización total de las pruebas en sistemas SMACT"; Indra Software Labs - Enxenio; Nieves R. Brisaboa (UDC); **308,550 €**; 2015/5/26 to 2017/12/31.
5. 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, S.L.U. - CDTI; Nieves R. Brisaboa (UDC) & Óscar Pedreira (UDC); **484,000 €**; 2014/9/1 to 2017/12/31.
6. OTR0814REC; "Contrato de colaboración para el desarrollo del proyecto de investigación 'REC- Residencia en casa' within call Conecta-Peme 2014"; Conecta Peme-2014, A0 Mayores S.L., Enxenio S.L., Grupo ON, S.L., Alalas, S.L.; Nieves R. Brisaboa (UDC); **189,380 €**; 2014/02/10 to 2015/06/30.
7. GOAL12/13-INDRA; "Contrato entre Indra Software Labs y CITIC en el marco del proyecto Feder Innterconecta, convocatoria 2013 Galicia, 'GOAL' "; Indra Software Labs S.L.U; Nieves R. Brisaboa (UDC); **153,670 €**; 2013/04/05 to 2014/12/31.