

Part A. Personal Information		Date CVA	
		03/01/2023	
Name and surname	Rebeca Pilar Díaz Redondo		
ID number		Age	47
Researcher IDs	Researcher ID	L-3108-2014	
	ORCID ID	0000-0002-2367-2219	
	AuthorID (Scopus)	6506079906	

A.1. Current position

Name of the University/Institution	Universidade de Vigo		
Department/Centre	Departamento de Ingeniería Telemática.		
Full Address	Escuela Ing. Telecomunicación. Campus Universitario. 36310 Vigo. Spain		
Telephone number	+ 34 986 813469	Email	rebeca@det.uvigo.es
URL	https://iclab.det.uvigo.es/rebeca		
Professional Category	Catedrática de Universidad (Professor)	Start date	02/08/2022
Key words	Distributed data analysis, AI, machine learning, IoT, Edge Computing,		

A.2. Education (title, institution, date)

Title	University	Year
<i>Telecommunication Engineer</i>	Universidade de Vigo	1997
<i>PhD in Telecommunication Engineer</i>	Universidade de Vigo	2002

A.3. Indicators of Quality in Scientific Production

- Number of sexenios: **4** (2000-2005) (2006-2011) (**2012-2017**) (2009-2015, knowledge transference)
- Index h: Scopus (**15**); Google Scholar (23)
- Number of Journal papers in **Q1: 27** (14 in the last 5 years); Number of Journal papers in **Q2: 15**
- Citations: Scopus (**1.212**); Google Scholar (2.716)
- Average cites per year (last 5 years): Scopus (**99,8**); Google Scholar (229,5)
- Doctoral Thesis completed: **11** (10 in the last 10 years); Ongoing Doctoral Thesis: 6

Part B. Free Summary of CV

Rebeca P. Díaz Redondo is a Telecommunications Engineer with a PhD in Telecommunications Engineering from the Universidade de Vigo (2002) and Professor at the Telematics Engineering Department at the same university. Since 2012 belongs to theatlanTTic research center (<https://atlanttic.uvigo.es/> at UVIGO) and she also coordinates the Information & Computing Lab (I&CLab, <https://iclab.det.uvigo.es/>). Currently composed of 12 researchers, I&CLab focuses its activity in the following areas to offer solutions to complex problems in dynamic contexts: data analysis, distributed and coordinated networks of devices and artificial intelligence (IA). Rebeca is currently working on defining appropriate privacy-aware solutions in the field of distributed DL/ML (Deep Learning/Machine Learning). This research line also copes with the application of incremental learning, reinforce learning and xAI (eXplainable Artificial Intelligence) in distributed and collaborative computing contexts. She is specially interested in applying these approaches for IoT solutions, taking into account specific protocols and distributed edge computing solutions (Edge/Fog/Mist computing). In the last 5 years, Rebeca has participated in 5 research projects and has led 3 of them (financed by the Spanish National Research plan). She often collaborates with companies in the ICT sector to transfer knowledge from university to society. In this line of cooperation and transfer, it stands out the coordination of two large consortia, both of them financed by the EACEA (agency of the EU): (i) "MARMOOC" (999.043 €), whose aim is transfer technology and knowledge to provide a MOOCs platform for 6 Moroccan universities (project supported by the Moroccan Ministry of Research and Higher Education) and (ii) "GreenIT" (4.251.900 €), with a consortium of 20 universities (10 from EU and 10 from North Africa) to exchange knowledge within the IT area. This activity, together with her



participation in other international projects, has facilitated the recruitment of talent for the IC&Lab as well as establish new collaborations with foreign institutions and research groups. Also, under the societal mission of her research, she is involved in initiatives for fighting sexism in digital media and preserving ethics in machine learning. Finally, she is the Dean of the Telecommunication Engineering School at the Universidade de Vigo since March 2021.

Part C. Relevant accomplishments

C.1. Publications: JCR journals (in the last 4 years)

1. In-depth analysis and open challenges of Mist Computing forums. Journal of Cloud Computing Computing. López Escobar, J. J., **Díaz Redondo, R. P.**, Gil-Castiñeira, F. DOI: 10.1186/s13677-022-00354-x
2. Medical Image Classification Using Transfer Learning and Chaos Game Optimization on the Internet of Medical Things. Mabrouk, A. Dahou, A. Abd Elaziz, M, **Díaz Redondo, R.**, Kayed, M. Computational Intelligence and Neuroscience. DOI: <https://doi.org/10.1155/2022/9112634>
3. Pneumonia Detection on Chest-XYray images Using Ensemble of Deep Convolutional Neural Networks. Mabrouk, A., **Díaz Redondo, R.**, Dahou, A. Abd Elaziz, M, Kayed, M. Applied Sciences. DOI: <https://doi.org/10.3390/app12136448>
4. Low-Cost HEM with Arduino and Zigbee Technologies in the Energy Sector in Colombia. De la Cruz Severiche Maury, Z., Fernández Vilas, A., **Díaz Redondo, R.** Energies. DOI: <https://doi.org/10.3390/en15103819>
5. Interplay between cryptocurrency transactions and online financial forums (2021) Fernández Vilas, A., **Díaz Redondo, R.**, Couto Cancela, D., Torrado Pazos A. Mathematics DOI: <https://doi.org/10.3390/math9040411>
6. KPIs-Based Clustering and Visualization of HPC jobs: a Feature Reduction Approach (2021) Halawa, M. S., **Díaz Redondo, R.**, Fernández Vilas, A. IEEE Access. DOI: 10.1109/ACCESS.2021.3057427
7. Multi-criteria recommendation systems to foster online grocery (2021) Hafez, M., **Díaz Redondo, R.**, Fernández Vilas, A. Sensors DOI: <https://doi.org/10.3390/s21113747>
8. Classification of retail products: From probabilistic ranking to deep learning (2021) Hafez, M. , Fernández Vilas, A., **Díaz Redondo, R.** Applied Sciences, 11, 4117 DOI: <https://doi.org/10.3390/app11094117>
9. SEOpinion: Summarization and Exploration Opinion of E-Commerce Websites (2021) Mabrouk, A., **Díaz Redondo, R.**, Kayed, M. Sensors, 21(2), 636 DOI: <https://doi.org/10.3390/s21020636>
10. JMAC Protocol: A Cross-Layer Multi-Hop Protocol for LoRa (2020) López Escobar, J. J., Gil-Castiñeira, F., **Díaz Redondo, R.** Sensors 2020, 20, 6893 DOI: 10.3390/s20236893
11. Unsupervised KPIs-Based Clustering of Jobs in HPC Data Centers (2020) Halawa, M. S., **Díaz Redondo, R.**, Fernández Vilas, A. Sensors 2020, 20(15), 4111 DOI: <https://doi.org/10.3390/s20154111>
12. A hybrid analysis of LBSN data to early detect anomalies in crowd dynamics (2020). **Díaz Redondo, R.**, García-Rubio, C., Fernández Vilas, A., Campo C., Rodríguez-Carrión, A. Future Generation Computer Systems. DOI: <https://doi.org/10.1016/j.future.2020.03.038>
13. Security Aspects in Smart Meters: Analysis and Prevention (2020). **Díaz Redondo, R.**, Fernández Vilas, A., Fernández dos Reis, G. Sensors 2020, 20(14), 3977. DOI: <https://doi.org/10.3390/s20143977>
14. Deep Learning-based Sentiment Classification: A Comparative Survey (2020) Mabrouk, A., **Díaz Redondo, R.**, Kayed, M. IEEE Access, vol. 8, pp. 85616-85638 DOI: 10.1109/ACCESS.2020.2992013
15. INRISCO: INcident monitoRing In Smart Communities (2020). Aguilar Igartua, M., Almdares, F., **Díaz Redondo, R.**, Martín, M. I., Forné, J., Campo C., Fernández Vilas, A., DE la Cruz, L.J, García-Rubio, C., Marín, A., Mezher, A.M., Díaz, D., Cerezo H., Rebollo-Monedero, D., Arias, P., Rico, F. IEEE Access. DOI: 10.1109/ACCESS.2020.2987483
16. The Irruption of Cryptocurrencies Into Twitter Cashtags: A Classifying Solution (2020). Fernández Vilas, A., **Díaz Redondo, R.**, Lorenzo García A. IEEE Access, vol. 8, pp. 32698-32713 DOI: 10.1109/ACCESS.2020.2973735



17. Fog architectures and sensor location certification in distributed event-based systems (2019). Fátima Castro-Jul, **Rebeca P. Díaz-Redondo**, Ana Fernández-Vilas, Sophie Chabridon, Denis Conan. *Sensors*. DOI: https://doi.org/10.1007/978-3-319-67585-5_3
18. Twitter Permeability to financial events: an experiment towards a model for sensing irregularities (2018) Fernández Vilas, A., **Díaz Redondo, R. P.**, Crockett, K., Owda, M., Evans, L. *Multimedia Tools and Applications*. DOI: <https://doi.org/10.1007/s11042-018-6388-4>
19. Collaboratively assessing urban alerts in ad hoc participatory sensing (2017). Castro Jul, F., **Díaz Redondo, R.P.**, Fernández Vilas, A. *Computer Networks*, Vol. 131, pp. 129-143. DOI: <https://doi.org/10.1016/j.comnet.2017.12.008>
20. Discovering Geo-dependent Stories by Combining Density-based Clustering and Thread-based Aggregation techniques (2018). Cerezo-Costas, H., Fernández Vilas, A., Martín Vicente, M., D., **Díaz Redondo, R.P.** *Experts Systems with Applications*, Vol 95, pp.32-42. DOI: <https://doi.org/10.1016/j.eswa.2017.11.019>
21. Sensing the city with Instagram: Clustering geolocated data for outlier detection (2017). Rodríguez Domínguez, D., **Díaz Redondo, R.P.**, Fernández Vilas, A, Ben Khalifa, M. *Experts Systems with Applications*. Vol 78, pp.319-333. DOI: <https://doi.org/10.1016/j.eswa.2017.02.018>

C1.2. International Conferences (in the last 2 years)

1. XuLLVQ: A River Implementation of the Incremental Learning Vector Quantization for IoT. González Soto, M., Fernández Castro, B., **Díaz Redondo, R.** and Fernández Veiga, M. 19th ACM International Symposium on Performance Evaluation of Wireless Ad Hoc, Sensor, and Ubiquitous Networks (PE-WASUN 2022). October 2022, in Montreal, Canada DOI: In press
2. Prototype of deployment of Federated Learning with IoT devices. García Santaclara, P., Fernández Vilas, A., and **Díaz Redondo, R.** 19th ACM International Symposium on Performance Evaluation of Wireless Ad Hoc, Sensor, and Ubiquitous Networks (PE-WASUN 2022). October 2022, in Montreal, Canada DOI: In press
3. A Micro learning approach based on a Telegram bot: a gender-inclusive language experience (2021) **Díaz Redondo, R.**, Caeiro Rodríguez, M., Torres-Guijarro, S., Vázquez Silva, I., Manso Vázquez, M. 10th Mediterranean Conference on Embedded Computing
4. “Inferring Energy Consumption Patterns in Public Buildings” (2020). **Díaz Redondo, R.P.**, Fernández Vilas, A., Abadía Rodríguez, A. 17th. ACM International. Symposium on Performance Evaluation of Wireless Ad Hoc, Sensor, and Ubiquitous Networks (PE-WASUN’20).
5. “Advanced practices: micro learning, practice-oriented teaching and gamified learning” (2020). **Díaz Redondo, R.P.**, Ktena, A., Kunicina, N., Zabasta, A. International Scientific Conference on Power and Electrical Engineering of Riga (RTCON), (2020).
6. “Monitoring Electricity Consumption based on Time Series Analysis”. **Díaz Redondo, R.P.**, Fernández Vilas, A., Estévez Caldas, A. (2020). 1st International Workshop on Research on Smart Grids and Related Applications (SGRA’20). 16th International Conference on Intelligent Environments.
7. “Fog Computing Solution for Distributed Anomaly Detection in Smart Grids” (2019) El-Awadi, R.M., Fernández Vilas, A., **Díaz Redondo, R. P.** International Conference on Wireless and Mobile Computing, Networking and Communications (WiMob)
8. “Automatic AID Sytem to Enhance the Readability of Scientific Papers” (2019) Ulisses, J., **Díaz Redondo, R** Fernández Vilas, A. 11th annual International Conference on Education and New Learning Technologies (EDULEARN)
9. “Is there a gender gap in computer-based assessment for science disciplines?” (2019). Soto Rodríguez, E.A., Fernández Vilas, A., **Díaz Redondo, R. P.** 12th annual International Conference of Education, Research and Innovation (ICERI)

C.2. Research Projects (in the last 8 years)

1. QURSA: Quantum-based Resistant Architectures and Techniques. QKS based on SDN (TED2021-130369B-C31). Ministerio de Ciencia e Innovación. Proyectos orientados a la transición ecológica y a la transición digital del plan estatal de investigación científica, técnica y de innovación 2021-2023, en el marco del plan de recuperación, transformación y resiliencia. PII: Ana Fernández Vilas, PI2: Manuel Fernández Veiga. Duration: November 2022-November 2024. Budget: 250.200 €

2. SIGNASALUD: Desarrollo de una aplicación de traducción de lengua de signos en entornos de salud (PDC2022-133766-I00). Ministerio de Ciencia e Innovación. Proyectos I+D+i Pruebas de Concepto 2022 del plan estatal de investigación científica, técnica y de innovación 2021-2023, en el marco del plan de recuperación, transformación y resiliencia. PI1 José Luis Alba Castro, PI2 Laura Docío Fernández. Duration: January 2022- December 2023. Budget: 140.300 €
3. COMPROMISE: Privacidad en Machine Learning colaborativo y distribuido, sujeto a requisitos de rendimiento y eficacia (PID2020-113795RB-C33). Ministerio de Ciencia e Innovación del programa estatal de generación de conocimiento y fortalecimiento científico y tecnológico del Sistema de I+D+i y del I+D+i orientada a los retos de la sociedad. **PI1: Rebeca P. Díaz Redondo**; PI2: Ana Fernández Vilas; Duration: September 2021- September 2024. Budget: 125.356 €.
4. Living Lab en Ciberseguridad y Caso de estudio en QI, Internet Cuántica. Convenio de colaboración entre a Axencia Galega de Innovación, a Fundación Pública Galega Centro Tecnolóxico de Supercomputación de Galicia, a Universidade de Santiago de Compostela, a Universidade de Vigo e a Universidade da Coruña para instrumentar a achega de Galicia ao desenvolvemento do programa de comunicación cuántica dentro dos plans complementarios de I+D+i do plan de recuperación, transformación e resiliencia. PI1 José Carlos Dafonte Vázquez, PI2 Francisco Javier Nóvoa de Manuel Duration: January 2022 – December 2023. Budget: 100.000 €
5. MAGOS: Detección de irregularidades en fuentes de datos y procesos distribuidos (TEC2017-84197-C4-2-R). Ministerio de Economía, Industria y Competitividad. Proyectos de I+D+I del programa estatal de investigación, desarrollo e innovación orientada a los retos de la sociedad. PI1: Ana Fernández Vilas; **PI2: Rebeca P. Díaz Redondo**. Duration: January 2018-December 2020. Budget: 36.300 €.
6. Identificación de comentarios sexistas en redes sociales mediante técnicas de IA. Cátedra Feminismos 4.0 Depo-Uvigo. Resolución rectoral 27/06/2021. **PI: Rebeca P. Díaz Redondo**. Duration: September-December 2021. Budget: 4.500 €.
7. Microaprendizaxe feminista corporativo. Cátedra Feminismos 4.0 Depo-Uvigo. Resolución rectoral 24/08/2020. PI: Soledad Torres Guijarro. Duration: September-October 2020. Budget: 5.500 euros.
8. “INRISCO: Análisis de Comunidades basado en minería social” (TEC2014-54335-C4-3-R). Ministerio de Ciencia e Innovación. Proyectos de I+D+I del programa estatal de investigación, desarrollo e innovación orientada a los retos de la sociedad. **PI: Rebeca P. Díaz Redondo**. Duration: January 2015-December 2017. Budget: 27.000 €.
9. “EMRISCO: Análisis de comunidades basado en minería social” (TEC2013-47665-C4-3-R). Ministerio de Ciencia e Innovación. Proyectos de I+D+I del programa estatal de Investigación, Desarrollo e Innovación orientada a los retos de la sociedad. **PI: Rebeca P. Díaz Redondo**. Duration: January 2014-December 2014. Budget: 10.000 €.

C.3. Contracts (in the last 8 years)

1. Evaluación de una estrategia formativa de microlearning para la mejora de la adherencia terapéutica en pacientes con enfermedad inflamatoria intestinal. **PI: Rebeca P. Díaz Redondo** and Manuel Caeiro Rodríguez. Company: Fundación Biomédica Galicia Sur. March 2021-March 2022. Budget: 31.000 €
2. Tecnologías Habilitadoras para uso en experiencia formativas. PI: Manuel Caeiro Rodríguez y Juan Manuel Santos Gago. Company: Fundación Centro Tecnológico de Telecomunicaciones de Galicia (Gradient). October 2019- June 2020. Budget: 16.000 €
3. Tecnologías Facilitadoras y competencias. **PI: Rebeca P. Díaz Redondo** y Ana Fernández Vilas. Company: 2MARES DEMIL, S.L. April 2018 - February 2019. Budget: 50.500 €
4. Desarrollo de la educación continua (Lifelong learning) en el ámbito escolar y corporativo. PI: Manuel Caeiro Rodríguez. Company: Fundación centro tecnológico de Telecomunicaciones de Galicia (Gradient). October de 2017 - May de 2018. Budget: 14.000 €.
5. “Learning analytics, Adaptación al aprendizaje y gamificación”. PI: Manuel Caeiro Rodríguez y Juan Manuel Santos Gago. Company: Fundación Centro Tecnológico de Telecomunicaciones de Galicia (Gradient). September 2016 - March 2017. Budget: 11.100 €.
6. “Estudio del estado del arte en la disciplina Learning Analytics”. PI: Manuel Caeiro Rodríguez y Juan Manuel Santos Gago. Company: Fundación Centro Tecnológico de Telecomunicaciones de Galicia (Gradient). November 2015- April 2016. Budget: 8.900 €.
7. “SITAR: Sistema Integral de Atención de Reclamaciones”. **PI: Rebeca P. Díaz Redondo**, Ana Fernández Vilas. Company: Unión Fenosa Distribución. July 2014-December 2014. Budget: 6.720 €.



8. “INGESELER: Entorno inteligente/adaptativo de creación y gestión de e-learning”. **PI: Rebeca P. Díaz Redondo**. Company: Instituto de Iniciativas Educativas y Promoción Profesional. May 2012–December 2012. Budget: 60.000 €

C.4 Patents and other IPR

1. MARBLE: registered in the Intellectual Property Registry of the Regional Government (Xunta de Galicia) in February 2018, id number: 03/2018/392.
It is a software for the sentiment & polarity analysis of user interactions in social networks within the context of a specific thematic area or subject. This platform allows non-expert users to benefit of this functionality for any analysis they need to perform.

C.5 Coordination & participation in European Mobility Projects (in the last 8 years)

1. KA107-Egypt. Erasmus + Program. (Project Number: 2019-1-ES01-KA107-063126) Movilidad con Egipto. Erasmus + Programme. EU. Coordinating institution: Universidade de Vigo (España). **Consortium PI: Rebeca P. Díaz Redondo**. 2019-2021. Budget: 53.180 €
2. KA107-Egypt. Erasmus + Program. (Project Number: 2017-1-ES01-KA107-037557) Movilidad con Egipto. Erasmus + Programme. EU. Coordinating institution: Universidade de Vigo (España). **Consortium PI: Rebeca P. Díaz Redondo**. 2017-2019. Budget: 53.710 €.
3. KA107-VN. Erasmus + Program. (Project Number: 2017-1-ES01-KA107-037557). Movilidad con Vietnam. Coordinating institution: Universidade de Vigo (España). Consortium PI: Ana Fernández Vilas. 2019-2021. Budget: 38.380 €.
4. GreenTech: Smart and Green Technologies for Innovative and Sustainable Societies in Western Balkans (2014-2018). EU - EACEA. Erasmus Mundus and External Cooperation (551984-EM-1-2014-1-ES-ERA MUNDUS-EMA21). Coordinating institution: Universidade de Vigo (Spain). Consortium PI: Ana Fernández Vilas. Budget: 2.921.875 €.
5. Green IT for the benefit of civil society (2012-2016). EU - EACEA. Erasmus Mundus and External Cooperation (3772227-1-2012-ES-ERA MUNDUS EMA21; Grant Agreement n° 2012-2625/001-001-EMA2). Coordinating institution: Universidad de Vigo (Spain). **Consortium PI: Rebeca P. Díaz Redondo**. Budget: 4.251.900€.
6. Europe and Latin America Innovation and Knowledge Academic Network (EuroInKANet) (2014-2018). EU – EACEA. Erasmus Mundus and External Cooperation. Coordinating institution: Manchester Metropolitan University (UK). **PI at UVIGO: Rebeca Díaz Redondo**. Budget: 3.159.800 €.

C.6 Coordination & participation in European Cooperation Projects (in the last 5 years)

1. ELEMEND: Electrical Energy Markets and Engineering Education (2017-2020). CBHE-EU EACEA (585681-EPP-1-2017-1-EL-EPPKA2-CBHE-JP). Coordinating institution: Technologiko Ekpedeftiko Edrima Stereas Elladas. **PI at UVIGO: Rebeca P. Díaz Redondo**. Budget at UVIGO: 51.128 € (global budget: 930.543 €).
2. AUDITUM: Audit et Contrôle Interne à l'Université Marocaine (2017-2020) CBHE-EU EACEA (585782-EPP-1-2017-1-ES-EPPKA2-CBHE-SP). Coordinating institution: Universidad de Vigo (Spain). Consortium PI: Ana Fernández Vilas. Budget at UVIGO: 136.603 € (global budget: 971.026 €).
3. “MARMOOC: Apprentissage Hybride Mutualisé et Ouvert dans les Universités Marocaines” (2016-2019) CBHE-EU EACEA (573583-EPP-1-2016-1- ES-EPPKA2-CBHE-SP). Coordinating institution: Universidad de Vigo (Spain). **Consortium PI: Rebeca P. Díaz Redondo**. Budget at UVIGO: 116.351 € (global budget: 999.043 €).
4. EXPERES: Les TICE appliquées à l'expérimentation scientifique (2015-2018) CBHE-EU EACEA (561551-EPP-1-2015-1-ES-EPPKA2-CBHE-SP). Coordinating institution: Universidad de Murcia (Spain). **PI at UVIGO: Rebeca P. Díaz Redondo**. Budget at UVIGO: 25955€ (global budget: 901.371 €).
5. LMPI: Licence, Master professionnels pour le développement, l'administration, la gestion, la protection des systèmes et réseaux informatiques dans les entreprises (2016-2019) CBHE-EU EACEA (573901-EPP-1-2016-1-IT- EPPKA2-CBHE-JP). Coordinating institution: UNINETTUNO University (Italy). PI at UVIGO: Ana Fernández Vilas. Budget at UVIGO: 51.984€ (global budget: 999.600 €).
6. MOMATE. Moderniser la formation sur les ER au Maghreb: Transfert de l'expérience (2014-2016). Education, Audiovisual and Culture Executive Agency. TEMPUS-EU EACEA (543713-



TEMPUS-1-2013-1-ES-TEMPUS-JPHES). Coordinating institution: Universidad de León (Spain).
PI at UVIGO: Ana Fernández Vilas. Budget at UVIGO: 66.178,63 € (global budget: 901.371 €).