MINISTERIO DE CIENCIA E INNOVACIÓN

Cofinanciado por la Unión Europea

AGENCIA ESTATAL DE INVESTIGACIÓN

CURRICULUM VITAE ABREVIADO (CVA)

Part A. PERSONAL INFORMATION

First name	Henrique		
Family name	Lorenzo Cimadevila		
Gender	Male		
e-mail	hlorenzo@uvigo.es	URL Web http://geotech.webs.uvigo.es/en/	
Open Researcher and Contributor ID (ORCID)		0000-0002-0157-735X	

A.1. Current position

Position	Professor (Catedrático de Universidad)		
Initial date	02/04/2019		
Institution	Universidade de Vigo		
Department/Center	Dpto. Ingeniería de los Recursos Naturales y Medio Ambiente	Escuela de Ingeniería Forestal	
Country	Spain		
Key words	Geomatics, Geointeligence, Remote Sensing, Radar		

A.2. Previous positions (research activity interuptions, indicate total months)

Period	Position/Institution/Country/Interruption cause
1990-1994	Predoc Researcher. Laboratorio de Geotecnia. CEDEX.
1995-1997	Lecturer at University of Coruña & University of Santiago
1998-2019	Lecturer at University of Vigo (Asociado, Interino, TU)

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Graduate Mathematics (Astronomía y Geodesia)	Universidad Complutense de Madrid	1989
Doctorate Physics (Geodesia y Geofísica)	Universidad Complutense de Madrid	1994

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

- 4+1 six-year research & transfer periods
- PhD supervision: 12 theses (7 from 2010: 4 International PhD, 1 PhD Award)
- DORA Metrics (based on San Francisco Declaration on Research Assessment)

	Google Scholar	Scopus	WoS
Documents	133	91	80
Documents (>2014)	33	29	29
h index	**33**	**28**	**26**
h index(>2018)	28	22	22

- Metrics linked to journal FI:	SJR	JCR
Q1 papers	**61**	**42**
Q1 papers (>2018)	28	22

Henrique Lorenzo is Graduate in Mathematics (Astronomy & Geodesy, 1989) and Doctor in Physics (Geodesy & Geophysics, 1994), both by the Universidad Complutense de Madrid. Between 1990-94 he was a doctoral fellow at Laboratorio de Geotecnia (CEDEX) in Madrid. In 1997 he entered as lecturer in the University of Vigo, obtaining in 2004 a position as Full

Time Lecturer (Profesor Titular de Universidad) in the field of Cartographic & Geodetic Engineering. Since 2019 he is a Professor (Catedrático de Universidad) in the same University.

He is founder member and Main Researcher (MR) of the Research Group in Applied Geotechnologies (http://geotech.webs.uvigo.es/), considered as Competitive Reference Group from 2013 in the branch of Engineering & Architecture, the higher distinction of the research groups in the Galician system, renewed in 2017 for another 3 years. Likewise, he coordinates the Research Network EneRAE (Energy: Renewable, Storage, Efficiency), conceded by Xunta de Galicia in 2014 and renewed in 2017. He has been MR of the Cátedra SCI-EYSA: Smart Cities & Road Safety.

He has supervised 12 PhD thesis (6 of them as International Doctorate), as well as near of 100 works as advisor of Academic Final Projects (DEA, PFC, TFG, TFM).

He is the author or coauthor of more than 130 scientific documents published in international journals (80 of them in JCR indexed journals), with more than 1800 citations to his works (h=33, Scholar), and inventor in 6 patents, 4 of them in exploitation. As result of the above, he owns 4+1 six-year research/technological periods (sexenios).

He has been researcher in 15 competitive projects of the Spanish National Programs (4 as MR) and Galician Plans (5 as MR). As coordinator of his Research Group, he has participated in 3 projects funded by the EU (Horizon 2020), standing out the project SAFEWAY (https://www.safeway-project.eu/en) leaded by the Group in a consortium of 15 partners from 8 countries and 5,5 MEUR budget and the project INFRAROB, starting in september 2021. He has been MR in more than 70 R&D contracts signed with companies and agencies in the 15 last years, for a value of about 2,5 MEUR. It has been promoter of the UVigo´s spin-off Engineering Insitu SL, created in 2008 and still operating.

He has been member of the Management Committee of the COST Action TU1208 and has been designated European Expert by the Research Executive Agency of the European Commission for the program FP7-SPACE-2013 and H2020, and expert referee of Trans-Domain Proposals of the program COST of the European Union.

He is actually expert in the European Program “ERA-NET Urban Transformation Capacities”, and acts as Manager for the Spanish Agencia Estatal de Investigación in the field of Energy & Transport.

Part C. RELEVANT MERITS *(sorted by typology)*

C.1. Publications (selection)

E Frías, J Pinto, R Sousa, H Lorenzo, L Díaz-Vilariño. Exploiting BIM Objects for Synthetic Data Generation toward Indoor Point Cloud Classification Using Deep Learning. Journal of Computing in Civil Engineering 36 (6), 04022032, 2022.

E Frías, M Previtali, L Díaz-Vilariño, M Scaioni, H Lorenzo. Optimal scan planning for surveying large sites with static and mobile mapping systems. ISPRS Journal of Photogrammetry and Remote Sensing 192, 13-32. 2022.

E González, J Balado, P Arias, H Lorenzo. Realistic correction of sky-coloured points in Mobile Laser Scanning point clouds. Optics & Laser Technology 149, 107807. 2022

J Balado, P Arias, H Lorenzo, A Meijide-Rodríguez. Disturbance analysis in the classification of objects obtained from urban lidar point clouds with convolutional neural networks. Remote Sensing 13 (11), 2135, 2021.

MR Luaces, JA Fisteus, L Sánchez-Fernández, M Munoz-Organero, J Balado, L Díaz-Vilariño, H Lorenzo. Accessible Routes Integrating Data from Multiple Sources (2021). ISPRS International Journal of Geo-Information 10 (1)

A Novo, H González-Jorge, J Martínez-Sánchez, H Lorenzo. Canopy detection over roads using mobile lidar data (2020). International Journal of Remote Sensing 41 (5), 1927-1942 (5), 1927-1942

Novo, A; Fariñas, N; Martínez-Sánchez, J; González-Jorge, H; Lorenzo. Automatic Processing of Aerial LiDAR Data to Detect Vegetation Continuity in the Surroundings of Roads. Remote Sensing Vol-Pag-Año:12 (10), 1677, 2020

Balado, J., Díaz-Vilariño, L., Arias, P., Lorenzo, H. Point clouds for direct pedestrian pathfinding in urban environments (2019) ISPRS Journal of Photogrammetry and Remote Sensing, 148, pp. 184-196.

Frías, E., Díaz-Vilariño, L., Balado, J., Lorenzo, H. From BIM to scan planning and optimization for construction control (2019) Remote Sensing, 11 (17), art. no. 1963,

López-Fernández, L., Lagüela, S., González-Aguilera, D., Lorenzo, H. Thermographic and mobile indoor mapping for the computation of energy losses in buildings (2017) Indoor and Built Environment, 26 (6), pp. 771-784.

C.2. Congress,

A selection of the main contribution to conferences can be accessed in https://scholar.google.es/citations?user=R3x4T7wAAAAJ&hl=es

C.3. Research projects (MR in national & international competitive projects)

FLATCity-Urban: Urban Inventory for FlatCity. Call: Proyectos de Prueba de Concepto 2021, MCI. Dates: 2021-23 (24 months). 43.700 EUR

Maintaining integrity, performance and safety of the road infrastructure through autonomous robotized solutions and modularization (InfraROB). Call: H2020, European Union. Smart, Green and Integrated Transport. 2021-2025. 860.000 €. Leader: University of Vigo.

Massive Geospatial Data Storage and Processing for Intelligent and Sustainable Urban Transportation (MaGIST). Call: MINECO, Programa Retos. Dates: 2020-22 (36 months). 75.000 EUR

GIS-based infrastructure management system for optimized response to extreme events of terrestrial transport networks (SAFEWAY). Call: H2020, European Union. Dates: 2018-21 (42 months). 640.000 EUR. Leader: University of Vigo.

Red EneRAE2 (Energía: Renovables, Almacenamiento, Eficiencia). Call: PGDIT Xunta de Galicia. Dates: 2017-19. 120.000 EUR.

3D route modeling for Flatcity. Call: MINECO, Programa Retos. Dates: 2016-19 (36 months). 27.104 EUR.

Cátedra SCI-EYSA. Smart Cities y Seguridad Vial. Financia: SCI-EYSA. Dates: 2015-17 (24 meses). 70.000 EUR

Strengthening Infrastructure Risk Management in the Atlantic Area (ENGINENCY). Call H2020, European Union. Dates: 2016-18 (30 months). 213.800 EUR.

Sistema integrado para la optimización energética y reducción de la huella de CO2 en edificios: tecnologías BIM, indoor mapping, UAV y herramientas de simulación energética. Call: MINECO, Programa Retos. 36 months. Dates: 2013-15. 128.000 EUR.

Reducción de los casos de atropellos por medio de análisis de visibilidad del binomio conductor-peatón con datos LiDAR móvil. Call: Dirección General de Tráfico, Ministerio del Interior. 13 months. Dates: 2014-15. 37.950 EUR.

Red EneRAE1 (Energía: Renovables, Almacenamiento, Eficiencia). Call: PGDIT Xunta de Galicia. Dates: 2014-16. 120.000 EUR.

Civil Engineering Applications of Ground Penetrating Radar. COST Action TU1208. Call: COST Action, European Union. Dates: 2013-17 (36 months). 400.000 EUR. MR: Lara Pajewsky (Roma Tree University)

C.4. Contracts, technological or transfer merits,

C4.1 Contracts (MR in R&D contracts funded by companies and Administration)

Automated driving for dual-mode system transport (AUTOMOST). Call: CIEN-CDTI. Funded by Ingeniería Isitu SL. Dates: 2018-20. 65.500 EUR.

Desarrollo de un prototipo de sistema inteligente de gestión de la infraestructura ferroviaria mediante uso de datos masivos estructurados (SENTINEL). Call: INNTERCONECTA-CDTI. Funded by ADIF. Dates: 2018. 10.000 EUR.

Desarrollo de un prototipo de sistema inteligente de gestión de la infraestructura ferroviaria mediante uso de datos masivos estructurados (SENTINEL) Call: INNTERCONECTA-CDTI. Funded by Alstom SA. Dates: 2017-18. 36.000 EUR

Desarrollo de un prototipo de sistema inteligente de gestión de la infraestructura ferroviaria mediante uso de datos masivos estructurados (SENTINEL) Call: INNTERCONECTA-CDTI. Funded by Ferrovial Agroman SA. Dates: 2017-18. 36.000 EUR

Sistema integral de gestión inteligente para alumbrado público (CANDELA). Call: CONECTAPEME-GAIN. Funded by Ingeniería Isitu SL. Dates: 2016-18. 28.500 EUR.

Desarrollo de vehiculo no tripulado de inspeccion multiple en tuneles ferroviarios (TUNNEL CURIOSITY). Call: INNTERCONECTA-CDTI. Funded by Ingeniería Isitu SL. Dates: 2016-17. 45.000 EUR.

Desarrollo de vehiculo no tripulado de inspeccion multiple en tuneles ferroviarios (TUNNEL CURIOSITY) Call: INNTERCONECTA-CDTI. Funded by Ferrovial Agroman SA. Dates: 2016-17. 22.000 EUR.

Desarrollo de metodologías de adquisición y procesamiento 3D de datos GPR/GPS Funded by Ingeniería Insitu SL. Dates: 2015-17 48.000 EUR

Diseño de algoritmos de procesamento 3D y extracción automática de datos LIDAR Funded by Ingeniería Insitu SL. Dates: 2015-18. 75.000 EUR.

Digitalización 3D en ciudades inteligentes. Funded by Proyestegal SL. Dates: 2015. 34.500 EUR.

C.4.2 Patents

Coupling system between unmanned aerial vehicles and beam type structures for contact measurement. P Neira, D Roca, L Diaz, S Lagüela, J Martinez, B Conde, B Riveiro, H González, P Arias, H Lorenzo. ES2572181. BOPI 30/05/2016

Wired power system for unmanned aerial vehicles. P Neira, D Roca, L Diaz, S Lagüela, J Martinez, B Conde, B Riveiro, H González, P Arias, H Lorenzo. ES2572188. BOPI 30/05/2016

Liquid dispersion system in unmanned aerial vehicles. H González, H Lorenzo, J Martinez, D Roca, P Neira, L Diaz. ES2571005. BOPI 30/05/2016.

Fastening device for geo-radar antennas on vehicle tow hooks for pavement evaluation. M Solla, H González-Jorge, P Arias, H Lorenzo. ES2404696. BOPI 28/05/2013

CaM-DisT: Photogrammetric system for semi-automatic 3D object measurement. P Arias, H Lorenzo, C Ordóñez. ES2315083. BOPI 07/102009

Full non-metallic trailer for GPR data acquisition on roads. H Lorenzo, P Arias, F Rial, M Pereira, A Novo. ES2404696. BOPI 16/05 2007

C.4.3 Companies

Promoter of the UVigo´s spin-off Engineering Insitu SL, created in 2008 and still operating.

C.4.4 Other merits

Award for the Best Research in Science and Technology. Applied Geotechnologies Research Group. Granted by Diputación de Pontevedra. 2013.

Award for the Best R&D Project. Applied Geotechnologies Research Group. Granted by Plataforma tecnológica de la Carretera. 2013

Award for the Best Case of Successful Technology Transfer for SMEs. Ingeniería Insitu SL / Applied Geotechnologies Research Group. Granted by Real Academia Galega de Ciencias. 2018.

Reviewer of research projects for the following spanish agencies: AEI (Spanish Research Agency, formerly ANEP), SPRI (País Vasco), ACAP (Madrid), ACSUCYL (Castilla y León), AVAP (Comunidad Valenciana), DEVA (Andalucía).

Reviewer of research projects for the following international agencies: FP7 & H2020 (Research European Agency, European Union), COST Actions (COST Association, European Union), ENUTC (ERA-NET Urban Transformation Capacities, European Union), NCSTE (National Centre of Science and Technology evaluation, Kazakhstan), CNGR (Comitato Nazionale dei Garanti per la Ricerca, Italy), LCA (Latvian Council of Science, Latvia).