

## SUMMARIZED CURRICULUM VITAE

**Name:** Celestino Ordóñez Galán

**Date:** 10/07/2023

**Date of birth:** [REDACTED]

**Academic degrees:** Mining Engineer in 1990 and Doctor in Mining Engineering in 1995, both from the University of Oviedo.

**Professional and academic career:** 1) Technical Director of HECOR S.A (Madrid-1991); 2) Lecturer of Applied Mathematics (University of Oviedo (Spain), 1992-1997); 3) Associate Professor of Cartographic Engineering (University of Vigo (Spain), 1997-2009; University of Oviedo, 2009-2016); *Full Professor of Cartographic Engineering* (University of Oviedo, 2016 - ).

**Scientific productivity indicators:** Six-year research periods: 4; six-year technology transfer periods: 1; h-index in Scopus: 26; Scopus iD: 8969808800; Orcid: 0000-0002-6912-6299.

### Summary of my research activity:

Principal investigator of the Geomatics and Computer Graphics Research Group (GEOGRAPH, ANEP GR-2014-0014). My scientific and technical contributions have been mainly focused on the combination of Geomatics and Machine Learning to solve problems related to mining, construction and environment. I am particularly interested in the development of algorithms for spatial data processing, especially 3D point clouds.

Regular reviewer of scientific journals included in the JCR database, such as Automation in Construction, Measurement or Remote Sensing, among many others.

My achievements in the *last ten years* are as follows: I) co-author of 77 research articles in journals indexed in the JCR database, 69 of them being in the first quartile (Q1), , II) co-author of 30 communications in conferences, mostly international conferences, III) co-inventor of 1 patent, IV) supervisor of 5 doctoral thesis, V) director of 7 competitive research projects, VI) researcher in 6 competitive research projects, two of them European projects (LIFE and H2020 calls), VII) director of 5 contracts for technology transfer to companies, VIII) project assistant in 4 contracts for technology transfer, 3 for companies and 1 for a public administration. The total economic amount of these projects is around 2 million euros.

### Ten relevant contributions:

#### 1) Scientific articles (the two most cited articles):

- Accuracy of Unmanned Aerial Vehicle (UAV) and SfM photogrammetry survey as a function of the number and location of ground control points used. Remote Sensing 10(10),1606, 2018. Cited by 216 (Scopus).
- An algorithm for automatic detection of pole-like street furniture objects from Mobile Laser Scanner point clouds. ISPRS Journal of Photogrammetry and Remote Sensing 87, 47-56, 2014. Cited by 152 (Scopus).

## 2) Communication in international conferences (last two conferences):

- Generalized additive model applied to principal component analysis of geographic data. XIX Conferencia Española y VIII Encuentro Iberoamericano de Biometría (CEB-EIB 2023). Vigo (Spain).
- Optimum scale selection for 3D point cloud classification through distance correlation function. 5th International Workshop on Functional and Operatorial Statistics, IWFOs 2020. 24,25 y 26 de junio de 2020. Brno (Czech Republic).

## 3) Patents (last two patents)

- Device for continuous measurement of convergence in tunnels. Grant date: 01/27/2014. Grant number: ES2424396B2. Priority country: Spain. Holder: Universidad de Oviedo. Co-financer: OCA Construcciones y Proyectos S.L.
- Device for remote measurement of flat surfaces using images. Grant date: 09/24/2014. Grant number: ES2466490 B2. Priority country: Spain. Holder: Universidad de Oviedo.

## 4) Research projects (two relevant projects)

- New methods for fire carbon emission estimates using artificial intelligence applied to 3D terrestrial point clouds. Plan Estatal de Investigación Científica y Técnica y de Innovación 2021-2023. Proyectos de Generación de Conocimiento 2021 (PID2021-126790NB-I00). January 2022 – December 2024. Principal Investigator: Cristina Santín. Budget: 132.240 €.
- Detection of structural damage in infrastructures and buildings by combining geomatic measurement techniques and stochastic analysis methods. Plan Nacional de Investigación Científica, Desarrollo e Innovación Tecnológica (I+D+i). September 2011- September 2014. Principal investigator: Celestino Ordóñez Galán. Budget: 140.624 €.

## 5) Technology transfer contracts (two of my latest technology transfer contracts as principal investigator)

- Development and implementation of a Deep Learning algorithm to detect road defects. Funded by Arposa 60 S.L. From 05/10/2021 to 04/10/2022. Lead researcher: Celestino Ordóñez Galán. Budget: 14.701,50 €.
- Prospecting, monitoring and advanced inspection of infrastructures and works through the development of emerging enabling technologies. From 01/01/2016 to 12/31/2016. Funded by Aplito S.L. Principal investigator: Celestino Ordóñez Galán. Budget: 72.600,00 €.