



PAMELA CAROLINA PESÁNTEZ-CABRERA
CIVIL ENGINEERING

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PROFILE SUMMARY

I have experience in research, photogrammetry, point cloud processing, geographic information systems and concrete testing. Currently I'm a researcher in Disaster Assessment, Monitoring and Management using terrestrial laser scanner (LiDAR) technology.

SKILLS

Research
Point cloud processing
Photogrammetry - Remote Sensing
Geographic Information Systems

TECHNICAL SKILLS

AutoCAD Civil 3D
ArcGIS Pro
Agisoft PhotoScan
CloudCompare

EDUCATION

Civil Engineering Universidad de Cuenca	2016 - 2022
Cartographer Environmental Systems Research Institute - ESRI	2022 - 2023
Concrete Field Testing Technician - Grade I American Concrete Institute - ACI	2019 - 2024
ArcGIS Specialist in Cadastral, Thematic and Applied Geological Mapping Explorock - Soluciones Geológicas	2021 - 2022

WORK EXPERIENCE

Teaching and research assistant: Geology and Geographic Information Systems Universidad de Cuenca <ul style="list-style-type: none">• Geophysical campaigns: Electrical resistivity tomography (ERT) and seismic tomography.• Monitoring of unstable slopes by means of: Terrestrial Laser Scanner (TLS or LiDAR), Unmanned Aerial Vehicles (UAV), both fixed wing (eBee AG) and multi-rotor (Phantom 4), Differential GPS and Total Station.• Thematic maps with QGis and ArcGIS.• Drone flight planning, Agisoft PhotoScan processing, CloudCompare and AutoCAD Civil 3D.• Scientific paper writing.	2018 - 2020
Proctor: Concrete Field Testing Technician - Grade I Certification SV Concrete Lab <ul style="list-style-type: none">• Theoretical and practical classes on ASTM tests and standards.• Coordination of evaluations.• Certification evaluator.• Mentoring of certification candidates.	2020 - 2021

Universidad de Guanajuato

- Scientific paper writing.
- Cartographer.
- Map interpreter.
- Reports.

Junior Technician

Current

Risk Reduction Area of the General Directorate of Risk Management of the Municipal GAD of Cuenca

- Monitoring unstable slopes that affect the infrastructure of the city of Cuenca.
- Inspections and reviews in emergencies involving citizens and structural impacts.
- Conducting flights with unmanned aerial vehicles (UAV), multi-rotor drones (DJI).
- Meetings with representatives of municipal GADs to coordinate activities and projects for mitigating unstable slopes.
- Drafting reports, official letters, annexes, and rendering accounts of the area.
- Reviewing costs for the execution of projects.
- Creating cartography using ArcGIS, AutoCAD Civil 3D, and Google Earth.
- Reviewing municipal ordinances and the PRECUAPA project.
- Executing the Banco de Suelos project of Cuenca and surrounding areas for the Risk Reduction Area.
- Creating cartography and identifying polygons susceptible to mass movements (FRM).
- Scheduling flights with unmanned aerial vehicles (UAV), multi-rotor drones (DJI).

LANGUAGES

Spanish: Native

English: C1 Level

Portuguese: A2 Level

PROGRAMS

- **Solar Storms Workshop 2021:** Sciesmex – LANCE National Space Weather Laboratory UNAM.
 - **Summer of Science 2021:** Selected to collaborate in a research project at the University of Guanajuato in the elaboration of thematic maps using QGIS and ArcGIS.
 - **2021 Virtual Summer School on Smart City:** Selected for the remote sensing program at the Beijing University of Civil Engineering and Architecture.
 - **Concepts and Frameworks in Science and Technology Studies 2022:** Selected for the International Science, Society and Technology Program at the University of Maryland.
 - **2022 Virtual Summer School on Resilient Cities:** Selected for the remote sensing program at Beijing University of Civil Engineering and Architecture.
 - **International Space Science School 2022:** Selected for the Space Science Program at the National Institute for Space Research in São José dos Campos, State of São Paulo, Brazil.
 - **Summer School: VLBI Space Geodesy 2023:** Selected for the Space Science Program at AEB – Brazilian Space Agency.
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PUBLICATIONS

- Acero P, Caldas M, Mejía P, **Pesántez P**, Piedra R, Morocho C y Acosta E. (2017). "Tipología y cinética del deslizamiento Reina del Cisne (Cuenca) a partir de fotografía aéreas, GPS, escáner láser terrestre y ensayos geotécnicos del suelo". *Geoespacial* Vol. 14 N° 2, 50–66.
- **Pamela C. Pesántez Cabrera**. "Land movement analysis from terrestrial laser scanner (LiDAR)", Proc. SPIE 11524, Eighth International Conference on Remote Sensing and Geoinformation of the Environment (RSCy2020), 115241Q (26 August 2020).
- **Pesántez, P. C.** "LANDSLIDE STUDY USING TERRESTRIAL LASER SCANNER (LiDAR) ANALYSIS", *Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci.*, XLIII-B3-2020, 1251–1256.
- **Pamela C. Pesántez Cabrera**. "Land movement detection from terrestrial laser scanner (LiDAR) analysis", Proc. SPIE 11744, Laser Radar Technology and Applications XXVI, 117440J (12 April 2021).
- **Pamela C. Pesántez Cabrera**. "Análisis deformativo estructural por deslizamiento en sector Reina del Cisne - Parroquia Paccha mediante escaneos con LiDAR y software CloudCompare", 2do Congreso Nacional de Geografía del Ecuador.
- Vallejo, N. S., Sánchez, L. M., **Pesántez, P. C.**, Ramírez, M. T., Moreno, E. A., Avilés, R. M., ... & Kshirsagar, P. (2021). Caracterización geológica y geomorfológica de los lineamientos estructurales en las regiones de Irapuato, Silao y León, en el estado de Guanajuato: Implicaciones morfoestructurales. *JÓVENES EN LA CIENCIA*, 10.
- **Pesántez, P. C.** "LANDSLIDE STUDY USING TERRESTRIAL LASER SCANNER (LiDAR) ANALYSIS", *Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci.*, XLIII-B3-2020, 1251–1256.
- **Pesántez, P. C.** LAND MOVEMENT DETECTION FROM UAV IMAGES, *Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci.*, XLIII-B2-2022, 1071–1076, <https://doi.org/10.5194/isprs-archives-XLIII-B2-2022-1071-2022>, 2022.
- **Pamela Carolina Pesántez-Cabrera**. Structural deformation analysis by landslide in Reina del Cisne sector - Paccha using LiDAR scans and CloudCompare software, *International Journal of Human Sciences Research*, V. 3, N. 14, 2023.
- **Pesántez-Cabrera, P. C.**: Land Movement Detection from UAV Images for a Sustainable World, *Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci.*, XLVIII-2-2024, 335–340, <https://doi.org/10.5194/isprs-archives-XLVIII-2-2024-335-2024>, 2024.

POSTERS

- EcoConcrete - Design of a Concrete Mixture with Alternative Materials: ACI Virtual Concrete Convention 2021.
- The Strongest Solar Storms in Recorded History and Their Effects: XIII Latin American Conference on Space Geophysics (COLAGE).

CONFERENCES

- **III Conference on Spatial Data Infrastructure - JIDEC 2017 in the V Ecuadorian Congress of Information and Communication Technologies - TIC.EC 2017**: Typology and kinetics of the Reina del Cisne landslide (Cuenca) from aerial photography, GPS, terrestrial laser scanner and geotechnical soil tests.
- **XXIVth ISPRS Congress**: Landslide study using terrestrial laser scanner (LiDAR) analysis.
- **2nd National Geography Congress of Ecuador**: Structural deformation analysis by landslide in the Reina del Cisne sector - Paccha Parish using LiDAR scans and CloudCompare software.
- **ACI Virtual Concrete Convention 2021**: EcoConcrete - Design of a Concrete Mixture with Alternative Materials.

- **I Integra Civil – Universidad Andina del Cusco:** Landslide Detection and Analysis with Ground Based Laser Scanning (LIDAR).
 - **SPIE Defense + Commercial Sensing:** Land movement detection from terrestrial laser scanner (LiDAR) analysis.
 - **NC ASPRS Fall Conference 2021:** Land Movement Detection from Terrestrial Laser Scanner (LiDAR) analysis.
 - **XI National Congress of Students of Earth Sciences:** Relationship between morphostructural characteristics and erosion intensity in the region of Irapuato, Silao and Leon, Guanajuato – Mexico.
 - **I Biennial Linkage – Universidad de Cuenca:** Landslide Detection and Analysis with Ground Based Laser Scanning (LIDAR).
 - **XXIVth ISPRS Congress:** Land movement detection from UAV images.
 - **TEDx Cuenca 2023:** The social phenomenon behind the natural phenomenon.
 - **ISPRS Technical Commission II Symposium 2024:** Land Movement Detection from UAV images for a Sustainable World.
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SCHOLARSHIPS

- XXIV ISPRS Congress, 2022: Scholarship to attend the congress virtually and cover the publication costs of the paper presented.
 - XIII Latin American Conference on Space Geophysics (COLAGE), 2022: Scholarship to attend the conference and the International Space Science School granted by the Latin American Association of Space Geophysics and the National Institute for Space Research.
 - ISPRS Technical Commission II Symposium 2024: Scholarship to attend the conference with an oral presentation granted by Grants Evaluation Committee of The ISPRS Foundation (TIF).
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AWARDS

- **TOYP Cuenca 2021 – JCI Cuenca:** Winner of the Ten Outstanding Young Person in the category of academic achievement and leadership in the city of Cuenca – Ecuador.
 - **TOYP Ecuador 2021 – JCI Ecuador:** Winner of the Ten Outstanding Young Person in the category of national academic achievement and leadership in Ecuador.
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VOLUNTEERING

- Advisor and ambassador of transitory directive of the National Association of Civil Engineering Students of Ecuador (March 2020 – May 2021).
- Director of the academic–scientific direction of the Latin American Association of Civil Engineering Students (March – December 2020).
- Secretary of Planning and Continuity of the Latin American Association of Civil Engineering Students (December 2020 – April 2021).
- General Coordinator of the Statutes Committee of the Student Network of the Latin American Association of Space Geophysics.