

# Paula Cid Ornelas

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## EDUCATION

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- University of British Columbia**, Canada Sep. 2024 – Present  
Doctor of Philosophy in Civil Engineering
- University of British Columbia**, Canada Sep. 2022 – Aug. 2024  
Master of Applied Science in Civil Engineering. Specialization in Transportation Engineering. GPA: 4.0/4.0  
Thesis title: "The effects of U.S. interstate spending on pavement condition and the environment"
- University of Brasilia**, Brazil Jan. 2017 – May 2022  
Bachelor of Science in Civil Engineering. GPA: 4.6/5.0  
Thesis: "Use of Fuzzy Techniques to Evaluate Smart Cities" (in Portuguese)
- University of California, Berkeley**, United States Jan. 2020 – May 2020  
Exchange Student. GPA: 3.9/4.0

## RESEARCH EXPERIENCE

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- University of British Columbia – Department of Civil Engineering** Sep. 2022 – Present  
Graduate Research Assistant
- Supervised by Dr. Amy Kim and Dr. Omar Swei.
  - Implemented a life cycle assessment (LCA) to evaluate the effects of infrastructure renewal spending on the environment and on pavement conditions to identify infrastructure policies for long-term sustainability.
  - Developed a proportional hazard to assess the impacts of road infrastructure and weather characteristics on post-disaster recovery times in British Columbia, Canada.
  - Developing a climate-informed model for sustainable pavement management that balances asset condition and greenhouse gas emissions by optimizing maintenance and rehabilitation strategies under diverse climate scenarios.
- University of Brasilia – Department of Civil and Environmental Engineering** Aug. 2020 – May 2022  
Undergraduate Research Assistant
- Supervised by Dr. Francisco Evangelista.
  - Developed, in Python, neural network models to predict the ultimate tensile strength and classify buckling type (local or global) using geometric parameters. The outputs were used to determine the optimal geometry of stiffened panels.
  - Applied, using MATLAB, fuzzy logic to evaluate sustainability indicators in smart cities, considering economic, governance, health, education, and infrastructure factors.
- UC Berkeley - Transportation Sustainability Research Center (TSRC)** Jan. 2020 - May 2020  
Undergraduate Research Intern
- Investigated case studies about innovative shared micro mobility services and its impacts in Brazilian cities.

## PUBLICATIONS

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- P. Cid Ornelas**, A. Kim, "Roadway Characteristics and Post-Disaster Highway Recovery", 104<sup>th</sup> Transportation Research Board (TRB) Annual Meeting, 2025.
- P. Cid Ornelas**, A. Kim, "The Impact of Spatial Characteristics on the Duration of Hazard Disruptions in Transportation Networks", 59<sup>th</sup> Canadian Transportation Research Forum (CTRF) Annual Meeting, 2024.
- P. Cid Ornelas**, J.M. del Campo Yañez, O. Swei, "The Effects of Interstate Spending on Pavement Condition and the Environment", 103<sup>rd</sup> Transportation Research Board (TRB) Annual Meeting, 2024.

J. P. S. Lima, **P. C. Ornelas**, and F. Evangelista Jr, "Ultimate Strength Optimization and Classification of Stiffened Panels Based on Artificial Neural Networks", Joint XLII Ibero-Latin American Congress on Computational Methods in Engineering (XLII CILAMCE) and III Pan-American Congress on Computational Mechanics (III PANACM), 2021.

**P. C. Ornelas**, and F. Evangelista Jr, "Identifying Resistance and Failure in Plates Using Machine Learning Techniques" (in Portuguese), 27th Undergraduate Research Conference of the University of Brasília and 18th Undergraduate Research Conference of the Federal District, 2021.

## TEACHING ASSISTANTSHIP

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University of British Columbia Jan. 2023 – Present  
CIVL 300 – Construction and Engineering Management | Dr. Fatima Alsakka | Spring 2025 (Head TA)  
CIVL 230 – Solid Mechanics I | Dr. Shayan Fahimi | Fall 2024  
CIVL 300 – Construction and Engineering Management | Dr. Omar Swei | Spring 2023 and 2024  
CIVL 519 – Risk and Decision Analysis for Infrastructure Management | Dr. Omar Swei | Fall 2023

University of Brasilia Jan. 2018 – May 2022  
Operations Research | Dr. Reinaldo Garcia | Spring 2022  
Structural Analysis | Dr. Lineu Pedroso | Spring and Fall 2021  
Mechanics of Solids II | Dr. Francisco Evangelista | Fall 2020  
Mechanics of Solids I | Dr. Rodrigo Lameiras | Spring 2019  
Physics II | Professor Leonardo Sousa | Spring 2018

## SCHOLARSHIPS, CERTIFICATIONS & AWARDS

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**Outstanding Student Award:** University of Brasilia, 2022.

**Honorable Mention Award:** 27th Undergraduate Research Conference of the University of Brasilia and 18th Undergraduate Research Conference of the Federal District, 2021.

**Brazilian National Council for Scientific and Technological Development (CNPq) Scholarship** for Undergraduate Research, 2020.

## SELECTED SKILLS

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**Computer Skills:** Python, R, MATLAB, AutoCAD, and Latex.

**Languages:** Portuguese (native), English (fluent), French (intermediate).

## COMMUNITY SERVICE, OUTREACH AND VOLUNTEERING

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- Brazilian Student Association (BRASA)  
Outreach Manager May 2023 – Aug 2024
- BRASA is a student-led organization dedicated to empowering Brazilians through free mentorship programs and connecting a global network of members.
  - Responsible for campaign planning, event organization, and partnership development, focusing on expanding the association's reach and ensuring financial viability.
- Communication and Content Analyst Feb 2023 – May 2023
- Collaborated with the marketing team to develop impactful campaigns, managed public relations efforts, and strategically amplified BRASA's initiatives and mentorship programs.