

Alvaro Marcelo Moscoso Wayar



Personal Information

- **Name: Alvaro Marcelo Moscoso Wayar**
- **Gender: Male**
- **Marital Status: Single**
- **Nationality: Bolivian**
- **ID Card: 4088754 Ch.**
- **Passport: AE72565**
- **Date of Birth: May 7, 1988**
- **Address: Alto Seguencoma Sector San Ignacio, Calle 12 esq. 12B #200 (La Paz-Bolivia)**
- **CELL PHONE: +591-77572340**

Academic Background

- **2022-2025 (ongoing):** PhD in Civil Engineering, thesis topic approved: “OPTIMIZATION OF MIXED CABLE-STAYED BRIDGES APPLYING FINITE ELEMENTS, GENETIC ALGORITHMS, AND MULTISCALE MODELS”
Federal University of Rio Grande do Sul (UFRGS) (Porto Alegre, Rio Grande do Sul, Brazil)
- **2014-2016:** Master’s in Civil Engineering, Specialization: Structures
Thesis Topic: “NUMERICAL ANALYSIS OF STEEL-CONCRETE COMPOSITE BEAMS USING THE FINITE ELEMENT METHOD: EXTERNAL PRESTRESSING”
Federal University of Rio Grande do Sul (UFRGS) (Porto Alegre, Rio Grande do Sul, Brazil)
- **2007-2011:** Bachelor’s in Civil Engineering
Thesis Topic: “Analysis of Reinforced Concrete Columns Using the General Verification Method”
Private Bolivian University, Cochabamba, Bolivia
- **1994-2006:** High School Diploma
Colegio De La Salle, La Paz, Bolivia

Work Experience

Private Bolivian University (U.P.B.)

- **January 2018 – Present:** Head of Civil Engineering Department, La Paz Campus
Administration of the department and teaching subjects related to Structural Engineering and Construction

Autonomous Municipal Government of El Alto (G.A.M.E.A.)

- **September 2016 – December 2017:** Structural Specialist Work Supervisor in the project CONST. JACHA UTA.
Start of functions: September 26.
Work Supervisor in the project CONST. FIRE STATION.
Start of functions: October 12
End of functions: November 18. Reason: Hiring of a company for external supervision.
- **Structural Specialist Work Supervisor in the project CONST. PUENTE BORO BORO.**
Start of functions: November 18
End of functions: December 27. Reason: End of contract.
- **Structural Specialist Work Supervisor in the project CONST. CENTRO ARTESANAL (PHASE III).**
Start of functions: December 4
End of functions: December 27. Reason: End of contract.
- **Work Supervisor in the project CONST. FLEXIBLE ASPHALT AV. CHILCANI (AV. SANTA FE – AIRPORT APPROACH).**
Start of functions: December 13
- **Structural Specialist Work Supervisor in the project CONST. NORTH AND SOUTH CURVES ANDINO COSMOS 79 STADIUM (PHASE I)**
Start of functions: December 23
Preparation of reports as a structural specialist in the project CONST. HUGO CHAVEZ COLISEUM, due to alignment problems of the axes in the supports of the roof structure.

Valdivieso Construction Company (CONSVAL S.R.L)

- **August 2016 – September 2016 (Consulting):**
Spanish-English Translator Engineer and advisor in the installation of cables for the Ferrobene Bridge. Coordination work with an English-speaking specialist.
Work in two phases: an initial phase consisting of updating the state of the work by the consultant and the second phase entering the work site in early September 2016.

Bolivian Institute of Metrology (IBMETRO)

- **July 2016 – September 2016 (Limited-time consulting, 2-month contract):**
Consultant in: IDENTIFICATION STUDY “CONSTRUCTION AND EQUIPMENT OF LABORATORIES AND OFFICES OF IBMETRO LA PAZ”
Activities: Coordination of activities between the Ministry of Productive Development and Plural Economy and IBMETRO, as well as both with the consulting company awarded the process CONFORSOR SRL
Specific topics: Architecture, Sanitary Installations, Electrical Installations, Air Conditioning Aspects, Structural and Occupational Aspects in General

Private Works

- **April 2016 – September 2016:**
 - Design of Structural Reinforcement for Single-Family Housing
 - Structural Optimization of a 5-level Building

- Final Structural Design of a 7-story Reinforced Concrete Building
- Structural Design of a 4-level Family House
- (Not completed) Final Design of a Sports Center with a 78-meter diameter Metal Roof and Reinforced Concrete Structure

Valdivieso Construction Company (CONSVAL S.R.L)

- **September 2013 – February 2014:**

Activities:

Resident Engineer responsible for the construction of the FerroBeni Bridge (La Paz Bolivia) Foundation Phase “Piling”

Responsible for the acquisition of construction materials, metric calculations, preparation of payment schedules, supervision of the correct execution of the work.

Metallurgical Company “HERESI” La Paz – Bolivia

- **August 2012 – August 2013:**

Activities:

Project coordinator engineer of the company.

Resident Engineer responsible for the assembly of the roof of the OLYMPIC SPORTS CENTER EL ALTO (August 2012 to January 2013)

Resident Engineer responsible for the assembly of the 4000m² Hangar on FAB grounds (March 2013 to August 2013)

Responsible for Designs, Pre-designs, supervision of Manufacturing activities for the assembly of upcoming projects (February 2013 to August 2013)

Metallurgical Company “HERESI” La Paz – Bolivia

- **January 2011:**

Duration: 120 hours

Activities:

Pre-Design of Metal Structures for Quotation

Private Bolivian University Cochabamba – Bolivia

- **June 2010:**

Duration: 120 hours

Activities:

Final Design “Expansion of Civil Engineering Laboratory” (Metal Structure)

Private Bolivian University (U.P.B)

Duration: 288 hours

January 2020 – Present

- Structural Analysis, part of the curriculum for the Civil Engineering undergraduate program
- Mechanics of Materials, part of the curriculum for the Civil Engineering undergraduate program

- Reinforced Concrete, part of the curriculum for the Civil Engineering undergraduate program
- Metal and Wood Structures, part of the curriculum for the Civil Engineering undergraduate program

Technical University of Oruro (U.T.O)

Duration: 36 hours

December 2019

- Structural Dynamics, a module part of the master's degree in Structural Engineering offered by the postgraduate faculty of the Technical University of Oruro

Private Bolivian University (U.P.B)

Duration: 20 hours

September 2019

- Finite Elements and Structural Simulation, a module part of the diploma in Structural Engineering and Seismic Design

Technical University of Oruro (U.T.O)

Duration: 36 hours

February 2019

- Public Works Management, a module of a diploma with a specialization in Structural Engineering

Private Bolivian University (U.P.B.)

Duration: 1220 hours

January 2018 – January 2020

- Construction II, part of the curriculum for the Architecture undergraduate program
- Construction Materials, part of the curriculum for the Architecture undergraduate program
- Mechanics of Rigid Bodies, part of the curriculum for the Civil Engineering undergraduate program
- Structural Analysis, part of the curriculum for the Civil Engineering undergraduate program
- Mechanics of Materials, part of the curriculum for the Civil Engineering undergraduate program

- **Bolivian Technological University (UTB)**

Duration: 500 hours

August 2017 – December 2017

Instructor for the subjects: Structural Stability II and Structural Analysis I.
Activities carried out at the unit located in Villa Dolores (El Alto)

- **February 2017 – June 2017**

Instructor for the subjects: Reinforced Concrete II and Structural Stability II.

Activities carried out at the unit located on Av. Federico Suazo (La Paz) and Villa Dolores (El Alto)

- **August 2016 – December 2016**

Instructor for the subjects: Construction Management and Structural Stability II.
Activities carried out at the units located on Av. Federico Suazo (La Paz) and Villa Dolores (El Alto)

Bibliographic Production

1. **Some issues about the deformational behavior of external pre-stressed steel-concrete composite beams**, AW Moscoso, JP Tamayo, B dos Santos Sánchez, Proceedings of the Institution of Civil Engineers, 2024 <https://doi.org/10.1680/jstbu.22.00044>
2. **Jorge L.P. Tamayo, Marina Iara Franco, Inácio B. Morsch, Jean Marie Desir and Alvaro M. Moscoso. SOME ASPECTS OF NUMERICAL MODELING OF STEEL-CONCRETE COMPOSITE BEAMS WITH PRESTRESSED TENDONS.** <http://dx.doi.org/10.1590/1679-78255599> DOI: 10.12989/cac.2017.19.2.191
3. **Alvaro M. Moscoso, Jorge L.P. Tamayo and Inácio B. Morsch. NUMERICAL SIMULATION OF EXTERNAL PRE-STRESSED STEEL-CONCRETE COMPOSITE BEAMS.** Pgs. 191-201. DOI: 10.12989/cac.2017.19.2.191
4. **MOSCOSO, Álvaro MORSCH, Inacio. PROTENSÃO DE VIGAS MISTAS CONTINUAS (MODELAGEM NUMÉRICA).**
5. **AGUIRRE, Francisco; MOSCOSO, Álvaro. GRÁFICAS DE DIMENSIONAMIENTO A FLEXO-COMPRESIÓN NORMAL Y OBLIQUA PARA CONCRETO DE ALTA RESISTENCIA, CONSIDERANDO LA NORMA EHE-08.** Revista "Investigación y Desarrollo #12" 2012.
6. **AGUIRRE, Francisco; MOSCOSO, Álvaro. DISEÑO SIMPLIFICADO DE SECCIONES METÁLICAS TIPO CAJON SUJETAS A FLEXO-COMPRESIÓN BIAJIAL.** Revista "Investigación y Desarrollo #10" 2011. <http://www.upb.edu/sites/default/files/8-ID10AM.pdf>
7. **AGUIRRE, Francisco; MOSCOSO, Álvaro. ESTUDIO TEORICO Y EXPERIMENTAL DE VIGAS SUJETAS A FLEXIÓN.** Revista "iCivil 2009-2010"

Languages

- **Spanish:** Understands well, Speaks well, Reads well, Writes well
- **English:** Understands well, Speaks well, Reads well, Writes well
- **Portuguese:** Understands well, Speaks well, Reads well, Writes well

Certificates Obtained

- **(2019)** SAFCO Law
- **(2018)** Classroom Effectiveness Workshop

Letters of Recognition:

- **(2011)** For participation in the “Civil Works Research Center” (CIMOC-UPB) with the works:
 - SIMPLIFIED DESIGN OF BOX-TYPE METAL SECTIONS SUBJECTED TO BIAXIAL FLEXO-COMPRESSION
 - ALTERNATIVE EXPERIMENTAL METHODS FOR CONCRETE DOSING CONSIDERING THE MATERIALS AVAILABLE IN COCHABAMBA
- **(2008)** For achieving the highest grades in the faculty
- **(2007)** For achieving the highest grades in the faculty

Certificates of Completion of Studies:

- **(2006)** Portuguese Language. Bolivia-Brazil Cultural Center (La Paz – Bolivia)
- **(2005)** English Language. Bolivian American Cultural and Educational Foundation (La Paz - Bolivia)

Awards and Scholarships Obtained

- **(2014-2016) Federal University of Rio Grande do Sul (UFRGS)**
After applying to a competition offered by UFRGS rewarding academic excellence, more than 50 professionals (Civil Engineering and Mechanical Engineering) from various countries participated in the competition to receive a scholarship (“Bolsa de Estudos” as it is known in Brazil) that benefits 10 foreign students with funds from scientific incentive agencies (CAPES and CNPQ) for the period (2014-2016). This scholarship consists of a monthly payment of R\$ 1,500.00 (one thousand five hundred Brazilian reais), as well as food benefits and discounts on urban public transportation in the city of Porto Alegre. The responsibility of the scholarship holder is to complete the research, to be carried out in the second year of the course, within 2 years from the date of entry into the course and to ensure that the quality of the work guarantees its publication in international scientific journals.
- **(2007-2011) Private Bolivian University (UPB)**
The following table presents the averages obtained in the semesters of study and the scholarships received:

Semester	Average	Scholarship (Discount)
First 2007 (La Paz)	94/100	Excellence (100%)
Second 2007 (La Paz)	93/100	Excellence (100%)
First 2008 (La Paz)	91/100	Excellence (100%)

Semester	Average	Scholarship (Discount)
Second 2008 (Cochabamba)	86/100	Top Hundred (80%)
First 2009 (Cochabamba)	87/100	Top Hundred (80%)
Second 2009 (Cochabamba)	88/100	Top Hundred (80%)
First 2010 (Cochabamba)	82/100	Top Hundred (80%)
Second 2010 (Cochabamba)	85/100	Top Hundred (80%)
First 2011 (Cochabamba)	82/100	Top Hundred (80%)

- *UPB is a private university, so scholarships are discounts on the monthly payments that must be made.
- *The Excellence Scholarship is awarded to the best student in the faculty.
- *The Top Hundred Scholarship is awarded upon entry to the university to students who achieved a good score on a test offered to the top students of the final year of the best schools in Bolivia and who maintained a minimum average of 80/100 in all semesters of the degree.
- **(2006)** Eighth place in Bolivia and third in La Paz in the “Top Hundred” test organized by UPB
- **(2006)** First place in the Physics Olympiad of the city of La Paz organized by the Universidad Mayor de San Andrés (UMSA) for public and private schools in the city.

Referencias Personales

Ing. Abelardo Reyeros Rivera Director Metrología Industrial y Científica –
Instituto Boliviano de Metrología

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Profesor Asistente Mecânica Computacional (PPGEC-CEMACOM) Dr. Eng. Dr.

Dr. Eng. Inacio Morsch

Email: morsch@ufrgs.br

Orientador de la disertación de maestría

Profesor Titular Mecánica Computacional (PPGEC-CEMACOM) UFRGS-Porto Alegre

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