

Felipe Prada  
Assistant Professor  
Department of Civil and Architectural Engineering - Structural Dynamics and  
Geotechnical Engineering  
**Type of address: Postal address.**  
Inge Lehmanns Gade 10  
3210 Navitas, 04.070  
8000  
Aarhus C  
Denmark  
**Email:** felipe.prada@cae.au.dk  
**Phone:** +4593521425



## Curriculum Vitae

### Education

2008 – 2011 PhD in Geotechnical Engineering, Karlsruher Institut für Technologie, Germany.  
2002 – 2004 Master of Science in Civil Engineering, Universidad de Los Andes, Bogotá, Colombia.  
1995 – 2000 Bachelor of Science in Civil Engineering, Pontificia Universidad Javeriana, Bogotá, Colombia.

### Research lines

Constitutive models for soils (development, calibration, validation)

Numerical simulation of geotechnical applications

Geotechnical earthquake engineering

BimSoils (soil-rock mixtures)

### Experience

01.2020-12.2022 Chair for Soil Mechanics, Foundation Engineering and Environmental Geotechnics, Department of Civil and Environmental Engineering, Ruhr-Universität Bochum, Germany.  
Postdoctoral Researcher.

01.2018 – 12.2019 Pontificia Universidad Javeriana, Bogotá, Colombia.

Associate Professor. Department of Civil Engineering

07.2012 – 12.2017 Pontificia Universidad Javeriana, Bogotá, Colombia.

Assistant Professor. Department of Civil Engineering

07.2011 – 07.2012 INGETEC S.A, Bogotá, Colombia.

Geotechnical specialist in the division of dams and embankments

01.2008 – 07.2011 Institute for soil mechanics and rock mechanics, Karlsruher Institut für Technologie, Germany.

Research Assistant

02.2006 – 12.2007 Universidad de Los Andes, Bogotá, Colombia.

Research Assistant

08.2004 – 08.2005 Technical University of Cartagena, Department of Civil Engineering, Spain

Research Scholar.

01.2002 – 08.2004 Water Supply and Sewerage Company of Bogotá, Colombia (EAAB).

Assistant engineer at the Trunk Sewerage Network Department.

Hydraulic and geotechnical design and review of sewerage projects.

01.1999 – 08.1999 Hidroasesorias Ltda, Bogotá, Colombia.

Assistant Engineer. Hydraulic and hydrologic studies and designs

## Qualifications

PhD in Geotechnical Engineering, Dr.-Ing., Parelatic description of small-strain soil behaviour, Karlsruhe Institute of Technology

Award Date: 1 Jun 2011

Master in Civil Engineering, M.Sc., Universidad de Los Andes Colombia

Award Date: 1 Apr 2004

Civil Engineering, B.Sc., Pontificia Universidad Javeriana Cali

Award Date: 5 May 2000

## Employment

### **Assistant Professor**

Department of Civil and Architectural Engineering - Structural Dynamics and Geotechnical Engineering

Aarhus University

Aarhus C, Denmark

14 Dec 2022 → present

## Research outputs

### **Influence of Sampling Methods on the Accuracy of Machine Learning Predictions Used for Strain-Dependent Slope Stability**

Shakya, S., Schmüdderich, C., Machaček, J., Prada-Sarmiento, L. F. & Wichtmann, T., Feb 2024, In: Geosciences (Switzerland). 14, 2, 44.

### **Breakage Indices for Constitutive Models to Track the Evolution of Particle Crushing Under Continuous Shearing**

Irani, N., Tafili, M., Prada-Sarmiento, L. F. & Wichtmann, T., 2024, (E-pub ahead of print) In: Geotechnical and Geological Engineering.

### **Loading rate influence on high-cyclic loading of clays**

Tafili, M., Albared, A., Prada-Sarmiento, L. F. & Wichtmann, T., Oct 2023, In: Soil Dynamics and Earthquake Engineering. 173, 108103.

Inspection of two sophisticated models for sand based on generalized plasticity: Monotonic loading and Monte Carlo analysis

Yeh, F. H., Tafili, M., Prada-Sarmiento, L. F., Ge, L. & Wichtmann, T., 25 Feb 2023, In: International Journal for Numerical and Analytical Methods in Geomechanics. 47, 3, p. 425-456 32 p.

### **Calibration of Constitutive Models for Tailings Material with OpenSees**

Geppetti, A., Facciorusso, J., Ciardi, G., Prada-Sarmiento, L. F. & Madiari, C., 2023, *Proceedings of the 2022 Eurasian OpenSees Days*. Di Trapani, F., Demartino, C., Marano, G. C. & Monti, G. (eds.). Springer Science and Business Media Deutschland GmbH, p. 182-191 10 p. (Lecture Notes in Civil Engineering, Vol. 326 LNCE).

Strain-dependent slope stability for earthquake loading

Schmüdderich, C., Machaček, J., Prada-Sarmiento, L. F., Staubach, P. & Wichtmann, T., Dec 2022, In: Computers and Geotechnics. 152, 105048.

Numerical analyses of the 2D bearing capacity of block-in-matrix soils (bimsoils) under shallow foundations

Schmüdderich, C., Prada-Sarmiento, L. F. & Wichtmann, T., Aug 2021, In: Computers and Geotechnics. 136, 104232.

### **A HYBRID TIME-FREQUENCY METHODOLOGICAL PROPOSAL TO SIMULATE GROUND RESPONSE UNDER HARMONIC ACCELERATIONS IN A MATERIAL-POINT FRAMEWORK**

Rodríguez, C. D., Prada-Sarmiento, L. F. & Wichtmann, T., 2021.

### **The Mocoa Event on March 31 (2017): analysis of a series of mass movements in a tropical environment of the Andean-Amazonian Piedmont**

Prada-Sarmiento, L. F., Cabrera, M. A., Camacho, R., Estrada, N. & Ramos-Cañón, A. M., 1 Dec 2019, In: Landslides. 16, 12, p. 2459-2468 10 p.

Evaluación de la capacidad portante en un Bimsoil bajo una cimentación superficial mediante FEM

Campos-Muñoz, D. D., Ramos-Cañón, A. M. & Prada-Sarmiento, L. F., 1 May 2018, In: Revista Técnica de la Facultad de Ingeniería Universidad del Zulia. 41, 2, p. 86-94 9 p.

Comportamiento mecánico de juntas frías lisas de concreto

Torres, A., Ramos-Cañón, A., Prada-Sarmiento, L. F. & Botía-Díaz, M., Dec 2016, In: Revista Ingeniería de Construcción. 31, 3, p. 151-162 12 p.

Linear discriminant analysis to describe the relationship between rainfall and landslides in Bogotá, Colombia

Ramos-Cañón, A. M., Prada-Sarmiento, L. F., Trujillo-Vela, M. G., Macías, J. P. & Santos-R, A. C., 1 Aug 2016, In: Landslides. 13, 4, p. 671-681 11 p.

Modelación multiescala de estabilidad de taludes en mezclas de bloques embebidos en matriz fina (BIM)  
Guerra, C., Pinzón, J., Prada, L. F. & Ramos, A. M., 2016.

**Extended paraelasticity and its application to a boundary value problem**

Niemunis, A., Prada-Sarmiento, L. F. & Grandas-Tavera, C. E., Jun 2011, In: Acta Geotechnica. 6, 2, p. 81-92 12 p.

**Paraelasticity**

Niemunis, A., Prada-Sarmiento, L. F. & Grandas-Tavera, C. E., Jun 2011, In: Acta Geotechnica. 6, 2, p. 67-80 14 p.

Shear banding in geomaterials under extensional plane strain conditions: Physical and analytical model

Triantafyllidis, T., Röchter, L., Niemunis, A. & Prada-Sarmiento, L. F., Jun 2011, In: Acta Geotechnica. 6, 2, p. 93-103 11 p.

Probability distribution of intensity attenuations for Colombia and Western Venezuela

Prieto, J. A., Foschi, R. O., Ventura, C. E., Finn, W. D. L., Ramos, A. M. & Prada, F., Apr 2011, In: Bulletin of the Seismological Society of America. 101, 2, p. 495-505 11 p.

**Anisotropic visco-hypoplasticity**

Niemunis, A., Grandas-Tavera, C. E. & Prada-Sarmiento, L. F., Dec 2009, In: Acta Geotechnica. 4, 4, p. 293-314 22 p.

Forecasting of monthly streamflows based on artificial neural networks

Prada-Sarmiento, F. & Obregón-Neira, N., 2009, In: Journal of Hydrologic Engineering. 14, 12, p. 1390-1395 6 p.