JOAN M. LARRAHONDO, Ph.D.
Associate Professor
Department of Civil Engineering, School of Engineering
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Education

Ph.D. in Civil Engineering **2011**
Georgia Institute of Technology Atlanta GA, USA
Focus: Environmental Geotechnics, *Minor:* Inorganic Geochemistry
Dissertation: "Carbonate diagenesis and chemical weathering in the Southeastern United States: some implications on geotechnical behavior"
Advisor: Susan E. Burns, Ph.D., P.E.
Sponsors: U.S. Department of Energy, Georgia Institute of Technology

Master of Science in Civil Engineering **2006**
Georgia Institute of Technology Atlanta GA, USA
Focus: Geotechnical Engineering
Project: "Assessing highway drain performance in Georgia"
Advisor: Paul W. Mayne, Ph.D., P.E.
Sponsors: Georgia Department of Transportation, Georgia Transportation Institute

Civil Engineering Degree **2003**
National University of Colombia Bogota, Colombia
Project: "Earthquake-induced liquefaction potential of sandy soils: state of the practice and applications to Colombia"
Advisor: Adolfo Alarcon-Guzman, Ph.D.

Academic Experience

Pontificia Universidad Javeriana **Bogotá, Colombia**
Assistant Professor, Associate Professor 2014 - present

Teaching:
- "Environmental Geotechnics": graduate-level course. *Average class size*: 5 students
- "Research Seminar II - Thesis writing, oral delivery": graduate-level course. *Average class size*: 8
- "Soil Mechanics": undergraduate-level course. *Average class size*: 25 students
- "Engineering Geology"*:* undergraduate-level course. *Average class size*: 34 students

Master's theses advised:
- Valbuena-Mojica, Héctor J. "Mineralogical and rheological comparison between gold tailings and soils with equivalent grain-size distribution" (in Spanish). *Co-advisor:* Carolina Florez, Sc.D. (Brazil) In progress (expected December 2020).

- Flórez-Gutiérrez, Paola. “Environmental management guidelines for the removal and final disposal of installed asbestos-cement in Colombia”. *Co-advisor:* María F. Cely-García, Ph.D. (Universidad de Los Andes, Colombia). In progress (expected December 2020).
- Castilla-Barbosa, Miguel M. “Tailings storage facility failures triggered by chemical degradation of foundation clayey soils: the Aznalcollar case (Spain)” (in Spanish). *Co-advisor:* Dr.-Ing. L. Felipe Prada-Sarmiento (Ruhr-Universität Bochum, Germany). Completed June 2020.
- Tituaña-Puente, Juan S. and Amarillo S., Daniel F. “Liquefaction response of gassy sands, prepared via organic-matter oxidation, under conditions of cyclic mobility” (in Spanish). *Co-advisor:* Dr.-Ing. L. Felipe Prada-Sarmiento. Completed July 2019.
- Cardenas R., Oscar J. “Effect of passive-vent distribution layouts on biogas flow regime and pore pressure in first-generation landfills” (in Spanish). *Co-advisor:* Jorge A. Escobar-Vargas, Ph.D. Completed November 2018.
- Beltran-Rodriguez, Lorena N. and Sanchez-Peralta, John A. “Physical and non-Newtonian numerical modeling of tailings flows under sudden-release conditions” (in Spanish). *Co-advisor:* Mr. Mario G. Trujillo-Vela. Completed January 2018
- Benavides L., C. Manuel and Fernandez N., Juan S. “Behavior of a tailings storage facility implementing a viscous model and construction stages: the Mount Polley TSF failure case.” (in Spanish). *Co-advisor:* Dr.-Ing. L. Felipe Prada-Sarmiento. Completed June 2017
- Zambrano V., Diana M. and Solórzano R., Carlos J. “Resilient modulus of fine-grained soils amended with coal-combustion products.” (in Spanish). *Co-advisor:* Mr. Hermes A. Vacca. Completed June 2017
- Rodríguez G., Carlos M. “Water-repellent coal combustion products (CCPs): interactions with water.” *Co-advisor:* Miguel A. Pando, Ph.D., P.E. (The University of North Carolina at Charlotte, USA). Completed December 2016
- Cristancho-Torres, E. “Experimental study on the effects of carbon dioxide production, induced by organic-matter oxidation, on the volumetric stability of granular soils.” (in Spanish). Completed 2016 (Outstanding Thesis Award).

Research projects:

- The role and fate of bentonite in cement-bentonite and slag-cement-bentonite slurry wall performance. *Principal investigator:* Jeffrey C. Evans, Ph.D., P.E. (Bucknell University, USA). *Sponsors*: Bucknell University and Pontificia Universidad Javeriana. In progress.
- National Asbestos Profile for Colombia. *Principal investigator:* Juan P. Ramos-Bonilla, Ph.D. (Universidad de Los Andes, Colombia). *Sponsors*: Universidad de Los Andes, Pontificia Universidad Javeriana, and Universidad del Rosario. In progress.
- Mineralogical, rheological, and geomechanical study of gold tailings and soils with equivalent grain-size distribution. *Sponsors:* Colombian Geotechnical Society, WSP Colombia, and Pontificia Universidad Javeriana. In progress
- Development of a laboratory-scale two-dimensional laser scanner system for geotechnical process monitoring. *Sponsor:* Pontificia Universidad Javeriana. In progress.
- Water-repellent gold tailings and potential applications. *Sponsors:* Universidad de Los Andes and Pontificia Universidad Javeriana. Completed June 2019.
- Water repellency for ash containment and reuse. *Principal investigator:* Miguel A. Pando, Ph.D., P.E. (The University of North Carolina at Charlotte). *Sponsors*: The University of North Carolina at Charlotte and Pontificia Universidad Javeriana. Completed 2017.
- A laboratory protocol for contact-angle measurements on geomaterials. *Sponsor:* Pontificia Universidad Javeriana. Completed 2017.

- Experimental study on the effects of carbon dioxide production, induced by organic-matter oxidation, on the volumetric stability of granular soils. *Sponsor*: Pontificia Universidad Javeriana's Research Office (Grant No. 6575). Completed 2016.
- Assessment of methods to minimize duration and backpressure level during saturation of fine-grained soils samples for triaxial compression testing. *Sponsor:* Colombian Geotechnical Society and Pontificia Universidad Javeriana. Completed 2016.

Academic Service:

- *Academic committees:*
  - Member of the School of Engineering's Doctoral program steering committee. 2020-present
  - Member of the design team and steering committee of the School of Engineering's Master's program in Energy & Sustainability. Co-author of the program proposal submitted and approved by the Colombian Ministry of Education. 2016-present
  - Member of the School of Engineering's Master's program in Civil Engineering steering committee. 2017-present
  - Member of the design team of Pontificia Universidad Javeriana's Water Institute. 2017-present

- *Peer reviewer of scientific manuscripts:*
  - *Journals*:
    Journal of Geotechnical and Geoenvironmental Engineering
    Géotechnique Letters
    Engineering Geology
    Geomechanics and Geophysics for Geo-Energy and Geo-Resources
    International Journal of Civil Engineering
    Earthquake Engineering and Structural Dynamics
    Engineering for Development (Ingeniería y Universidad)
    Revista Boletín Ciencias de la Tierra
  - *Conference proceedings*:
    XIII International Symposium on Landslides, Cartagena, Colombia. June 2020 (postponed)
    I GeoMEast International Congress & Exhibition on Sustainable Civil Infrastructures, Egypt 2017
    XV Colombian Geotechnical Congress. Cartagena, Colombia, November 2016.
    Geo-Chicago 2016: Sustainability, Energy, and the Geoenvironment, Chicago, IL-USA, August 2016. ASCE Geo-Institute
    XIV Colombian Geotechnical Congress. Bogota, Colombia, August 2014.
    Geo-Congress 2014: Geo-Characterization and Modeling for Sustainability, Atlanta, GA-USA. February 2014. ASCE Geo-Institute.
    VII International Conference on Case Histories in Geotechnical Engineering and Symposium in honor of Clyde Baker. Wheeling, IL, April-May 2013

- *Participation in conference/course organizing committees:*
  - Organizing committee of the permanent international webinar series at Pontificia Universidad Javeriana's Civil Engineering Department. 2017-present
  - Colombian Geotechnical and Structural Conference, April 2018
  - II Course on Subsurface Investigation & Deep Foundation Design, Bogota, Colombia, May 2017
  - Coordinator of the Summer course "Integrated Tailings Management" by Dr. Andy Fourie (University of Western Australia), Pontificia Universidad Javeriana, June-July 2016

- Geo-Chicago 2016: Sustainability, Energy, and the Geoenvironment. Organizer and moderator of the "Mining Waste" technical session. Chicago, IL, August 2016. *Co-organizers*: Dr. Michel Aubertin (Polytechnique Montréal) and Dr. Susan Burns (Georgia Tech).
- Geo-Congress 2014: Geo-Characterization and Modeling for Sustainability. Organizer and moderator of the "Dam and levee instrumentation for sustainable design" technical session. Atlanta, GA. February 2014. *Co-organizer*: Dr. Camilo Marulanda (INGETEC S.A. Consultants)
- III GeoLatina: Latin American Geotechnical Faculty Workshop. Atlanta, GA. February 2014. *Main organizer:* Dr. J. Carlos Santamarina (formerly at Georgia Tech)

- *Guest speaker:*
  - Middle East Technical University, Ankara, Turkey, April 2019. *Short course (one week)*: "Environmental Geotechnics". Sponsored by the Erasmus+ Program
  - Cancaya University, Ankara, Turkey, April 2019. *Seminar title:* "Understanding mine tailings flows with physical and numerical modeling"
  - Bucknell University Department of Civil & Environmental Engineering seminar series, Lewisburg PA, USA, September 2018. *Seminar title:* "Understanding mine tailings flows with physical and numerical modeling"
  - Georgia Tech Department of Civil & Environmental Engineering seminar series, Atlanta GA, USA, June 2016. *Seminar title*: "Gas production in coarse-grained soils: volume change and pore pressure behavior"

- *Professional service:*
  - Member of the group of experts convened by the Colombian Ministry of Environment to prepare a review on the impacts of mining on Colombian ecosystems (after Colombian Constitutional Court's Sentence No. T-445), 2017-2018
  - Board member of the Colombian Geotechnical Society, 2011-2014 and 2016-2017

- *Leadership positions at Pontificia Universidad Javeriana:*
  - CECATA research group leader, 2015-present
  - Geotechnical section coordinator, 2014-2015

Georgia Institute of Technology **Atlanta, GA - EEUU**
Graduate Research Assistant 2007 - 2011
Geoenvironmental Engineering Laboratory Supervisor

Research projects:
- An experimental investigation on the role of iron oxide coatings in the engineering behavior of soils: an approach to chemical weathering effects on soil mechanics. *Principal investigator*: Susan E. Burns, Ph.D., P.E. *Sponsor*: Georgia Institute of Technology
- Comprehensive geo-characterization of the Santee Formation and its implications for engineering behavior at the Savannah River Site (SRS). *Principal investigator*: Susan E. Burns, Ph.D., P.E. *Sponsor*: U.S. Department of Energy
- Performance of highway underdrain structures in the State of Georgia. *Principal investigator*: Paul W. Mayne, Ph.D., P.E. *Sponsors*: Georgia Department of Transportation, Georgia Transportation Institute

Teaching:
- "Laboratory Characterization of Geomaterials": graduate-level course section. *Average size*: 15
- "Introduction to Geotechnical Engineering": undergraduate-level laboratory section. *Average size*: 15
- "Foundation Systems": graduate-level course. Assignment grader

Geo-Environmental Engineering Laboratory Supervisor:
- Maintained the laboratory chemical inventory (Chematix database system) and Material Safety Data Sheet (MSDS) catalogue
- Coordinated periodic inventory reconciliation
- Managed chemical waste disposal

Peer reviewer of scientific manuscripts:
- Geo-Frontiers 2011: Advances in Geotechnical Engineering. "Bio-soil" technical session. Dallas TX, March 2011. ASCE Geo-Institute.
- V International Conference on Scour and Erosion. San Francisco CA, November 2010. ASCE Geo-Institute
- GeoFlorida 2010: Advances in Analysis, Modeling & Design. "Physico-Chemical Response of Soils" technical session. West Palm Beach FL, February 2010. ASCE Geo-Institute.
- International Foundation Congress and Equipment Expo 2009, "Problematic Soils" technical session. Orlando FL, March 2009. ASCE Geo-Institute.

Participation in conference organizing committees:
- International Symposium on Deformational Characteristics of Geomaterials, IS-Atlanta 2008. Atlanta GA, Sep. 2008.
- Annual "Sowers Symposium", Georgia Institute of Technology, Atlanta GA. 2006-2011

Academic consulting:
- Performed clay mineral identification in soils from ten borings from the Mobile, AL Gulf coast using oriented-mount XRD. *Client:* Hayward Baker Inc., Atlanta GA, August 2010. *Supervisor*: Susan Burns, Ph.D., P.E.
- Assisted Seismic Piezocone penetration (sCPTu) and Flat Dilatometer (DMT) testing for foundation design of a water tower in Cherokee County, GA. *Client*: Geo-Hydro Engineers Inc., March 2006. *Supervisor*: Paul W. Mayne, Ph.D., P.E.
- Assisted Seismic Piezocone penetration (sCPTu) testing for foundation design at the Progress Energy Bartow Power Plant, Weedon Island, St. Petersburg, FL. *Client*: Ardaman & Associates Inc., March 2006. *Supervisor*: Paul Mayne, Ph.D., P.E.

Refereed Archival Journal Publications

Sánchez-Peralta J.A., Beltrán-Rodríguez L.N., Trujillo-Vela M.G., and **Larrahondo J.M.** (2019). Flows of liquefied filtered tailings: laboratory-scale physical and numerical modeling. *International Journal of Civil Engineering*. DOI: https://doi.org/10.1007/s40999-019-00482-7

Solórzano C.J., Zambrano D.M., Vacca H.A., **Larrahondo J.M.** (2019). Resilient-modulus degradation of low-plasticity clays due to coal combustion residuals. *Revista Ingeniería de Construcción.* Vol. 34, No. 3, pp. 225-241. DOI: http://dx.doi.org/10.4067/S0718-50732019000300225

Beltrán-Rodríguez L.N., **Larrahondo J.M.**, and Cobos D. (2018). Emerging technologies for tailings disposal: opportunities for Colombian practice. *Boletín de Ciencias de la Tierra*. Vol. 44, pp. 5-20. DOI: https://doi.org/10.15446/rbct.n44.66617 (in Spanish)

Cristancho-Torres E. and **Larrahondo J.M.** (2017). Gassy sands: volume change induced by organic matter oxidation. *Géotechnique Letters*. Vol. 7, No. 2, pp. 174-178. DOI: https://doi.org/10.1680/jgele.16.00143

Choo H.W., **Larrahondo J.M.,** and Burns S.E. (2014). Coating effects of submicron-sized particles onto sand surfaces: small-strain stiffness and contact mode of iron oxide-coated sands. *Journal of Geotechnical and Geoenvironmental Engineering*. Vol. 141, No. 1: 04014077. DOI: https://doi.org/10.1061/(ASCE)GT.1943-5606.0001188

Larrahondo J.M. and Burns S.E. (2013). Laboratory-prepared iron oxide coatings on sands: surface characterization and strength parameters. *Journal of Geotechnical and Geoenvironmental Engineering*. Vol. 140, No. 4. DOI: http://dx.doi.org/10.1061/(ASCE)GT.1943-5606.0001068

DeJong J.T., Soga K.S., Kavazanjian E., Burns S.E., Van Paassen L., Al Qabany A., Aydilek A., Bang S. S., Burbank M., Caslake L., Chen C. Y., Cheng X., Chu J., Ciurli S., Fauriel S., Filet A. E., Hamdan N., Hata T., Inagaki Y., Jefferis S., Kuo M., Laloui L., **Larrahondo J.M.**, Manning D.A.C., Martinez B., Montoya B.M., Nelson D.C., Palomino A., Renforth P., Santamarina J.C., Seagren E.A., Tanyu B., Tsesarsky M., and Weaver T. (2013). Biogeochemical processes and geotechnical applications: progress, opportunities, and challenges. *Géotechnique.* Vol. 63, No. 4, pp. 287-301. DOI: http://dx.doi.org/10.1680/geot.SIP13.P.017

Larrahondo J.M., Choo H.W., and Burns S.E. (2011). Laboratory-prepared iron oxide coatings on sand: submicron-scale small-strain stiffness. *Engineering Geology*, Vol. 121, pp. 7-17. DOI: http://dx.doi.org/10.1016/j.enggeo.2011.04.009

Pinto A.E., **Larrahondo J.M.**, y Alarcón-Guzmán A. (2006). Avances en la estimación de la amenaza por licuación inducida por sismo y su aplicación al caso colombiano. *Boletín Colombiano de Geotecnia*, Vol. 2 (11), pp. 39-56. (in Spanish)

Conference proceedings publications and presentations

Cárdenas-Rodríguez O., **Larrahondo J.M.**, and Escobar-Vargas, J. A. (2019). Biogas induced pore pressures in high organic matter landfills: effect of passive gas vent spacing. *Second international conference on Environmental Geotechnology, Recycled Waste Materials and Sustainable Engineering*. Chicago, USA, June 2019.

Valencia-Galindo M.D., Beltrán-Rodriguez L.N., Sánchez-Peralta J.A., Tituaña-Puente J.S., Trujillo-Vela M.G., **Larrahondo J.M.**, Prada-Sarmiento L.F., and Ramos-Cañón A.M. (2018). A two-dimensional laser-scanner system for geotechnical processes monitoring. *Physical Modelling in Geotechnics*. McNamara et al. (eds). London, England, July 2018.

Cristancho-Torres E. and **Larrahondo J.M.** (2017). A new technique to prepare gassy sands in the laboratory. *Proceedings of the II International Symposium on Coupled Phenomena in Environmental Geotechnics (CPEG2)*. Leeds, England, September 2017.

Correa S.D., Ramírez A.F., **Larrahondo J.M.**, and Vacca H.A. (2016) Saturation of fine-grained triaxial test soil samples using CO_2 and vacuum pressures. *Proceedings of the XV Colombian Geotechnical Congress*. Cartagena, Colombia, October 2016 (in Spanish)

Díaz-Beltrán J., Iguarán-Fernández J.J., **Larrahondo J.M.**, and Jaramillo L.A. (2016). Shear strength of municipal solid waste (MSW): beyond the raw values of "cohesion" and friction angles. *Proceedings of Geo-Chicago 2016*. pp. 264-274. DOI: https://doi.org/10.1061/9780784480144.026

Larrahondo J.M., Ross W., Ruiz W., and Marulanda C. (2014). Long-term behavior of a rockfill dam: La Esmeralda Dam, Colombia. *Proceedings of the Geo-Congress 2014: Geo-Characterization and Modeling for Sustainability. GSP 234.* Atlanta, GA-USA, February 2014. pp. 237-251. DOI: http://dx.doi.org/10.1061/9780784413272.024

Marulanda C., Marulanda A., and **Larrahondo J.M.** (2013). Long term behavior of two embankment dams. *Proceedings of the International Commission on Large Dams (ICOLD) 81st Annual Meeting.* Seattle, WA-USA, August 2013. pp. 2179-2193.

Larrahondo J.M., and Burns S.E. (2011). Bio-mediated diagenesis in carbonate sediments. *Second international workshop on bio-soil interactions and engineering*. University of Cambridge, UK, September 2011.

Larrahondo J.M., Burns S.E., and Gutierrez B. (2011). Early marine diagenesis in calcium carbonate rich sediments: a review of implications for geotechnical systems. *Proceedings of Geo-Frontiers 2011: Advances in Geotechnical Engineering*. Dallas TX-USA, March 2011. pp. 3956-3965. DOI: http://dx.doi.org/10.1061/41165(397)404

Larrahondo J.M., Burns S.E., and Gutierrez B. (2010). Diagenesis of carbonate sediments: coupled softening-hardening processes at the SRS. *Association of Environmental & Engineering Geologists' 53rd Annual Meeting*. Charleston, SC-EEUU, September 2010.

Larrahondo J.M., Burns S.E., and Elliott W.C. (2010). Laboratory-prepared iron oxide coatings on coarse-grained soils as residual soil simulants. *Proceedings of Geo-Florida 2010: Advances in Analysis, Modeling & Design*. West Palm Beach FL-USA, February 2010. pp. 2712-2721. DOI: http://dx.doi.org/10.1061/41095(365)275

Larrahondo J.M., and Burns S.E. (2010). Diagenesis of $CaCO_3$-rich soils: coupled softening-hardening. George F. Sowers Symposium. Georgia Tech Student Center. Atlanta, GA-EEUU.

Larrahondo J.M., Zhao Q., Burns S.E., and Elliott W.C. (2009). Iron oxide coatings on sand shear response: a laboratory approach to chemical weathering. George F. Sowers Symposium. Georgia Tech Student Center. Atlanta, GA-EEUU.

Larrahondo J.M., Zhao Q., Burns S.E., and Elliott W.C. (2008). Effects of ferric oxyhydroxide coatings on sand shear response: a laboratory approach to chemical weathering. *Proceedings of the Research Symposium on the Characterization and Behavior of Interfaces CBI2008*. Atlanta GA-USA, September 2008. pp. 63-70. DOI: http://dx.doi.org/10.3233/978-1-60750-491-7-63

Larrahondo J.M., Atalay F., McGillivray A.V., and Mayne P.W. (2008). Evaluation of road subsurface-drain performance by geophysical methods. *Proceedings of the Geo-Congress 2008: The Challenge of Sustainability in the Geoenvironment*. New Orleans LA-USA, March 2008. pp. 538-545. DOI: http://dx.doi.org/10.1061/40971(310)67

Larrahondo J.M., Atalay F., McGillivray A.V., and Mayne P.W. (2007). Assessing highway drain performance in Georgia. George F. Sowers Symposium. Georgia Tech Student Center. Atlanta, GA-USA.

Pinto A.E., **Larrahondo J.M.**, y Alarcón-Guzmán A. (2003). "Metodologías para la evaluación del potencial de licuación inducida por sismo en depósitos arenosos y su aplicación al caso colombiano." *Memorias de las XII Jornadas Geotécnicas de la Ingeniería Colombiana y V Foro sobre la Geotecnia de la Sabana de Bogotá*. Bogota, Colombia. (in Spanish)

Book chapters and research reports

Hernández G., Colmenares J.E., Vargas, F., **Larrahondo J.M.** y Guatame, P. (2008). Objetivos de los programas de formación en ingeniería. *In*: *"Ciencia e Ingeniería en la Formación de Ingenieros para el Siglo XXI: Fundamentos, Estrategias y Casos".* ACOFI, Bogota. (in Spanish)

Larrahondo J.M., Atalay F., McGillivray A.V., and Mayne P.W. (2007). Assessing highway drain performance in Georgia. Technical report on primary drain sites. GDOT Project No. B-02-662. GTI Fund No. R6038, CEE No. E-20-K86. Atlanta, GA, Georgia Dept. of Transportation, Office of Materials & Research, R&D Branch, 188 pages.

Further details: https://scholar.google.com/citations?user=kJIj8xkAAAAJ&hl=en

Professional memberships

- United States Universities Council on Geotechnical Education and Research (USUCGER): Active member
- Colombian Geotechnical Society (SCG): Active member

Awards

First prize, Best technical presentation award (2019)
Second international conference on Environmental Geotechnology, Recycled Waste Materials and Sustainable Engineering. Chicago, USA, June 2019

Best Ph.D. Thesis Award (2012)
Granted by the Georgia Tech School of Civil and Environmental Engineering

George F. Sowers Distinguished Graduate Student Award (2011)
Granted by the Georgia Tech Geosystems Engineering Group

Jean-Lou Chameau Student Research Excellence Award (2010)
Granted by the Georgia Tech School of Civil and Environmental Engineering

Doctoral Research Assistantship (2007-present)
Granted by the Geosystems Engineering Group, School of Civil and Environmental Engineering, Georgia Tech. Doctoral studies funded by the U.S. Department of Energy and Georgia Tech.

Graduate Research Assistantship (2005-2007)
Granted by the Geosystems Engineering Group, School of Civil and Environmental Engineering, Georgia Tech. Graduate studies funded by the Georgia Department of Transportation and the Georgia Transportation Institute

Gerald A. Leonards Undergraduate Research Award (2003)
Granted by the Colombian Society of Civil Engineers

Undergraduate Scholarship (1998 and 2000)
Granted by the School of Engineering, National University of Colombia, Bogota-Colombia

Professional Experience

INGETEC S.A. Consultants — **Bogota, Colombia**
Senior Geotechnical Engineer — 2011-2014

Achievements:
- Coordinated and supervised 19 consulting projects focusing on geotechnical design and monitoring of dams and hydroelectric-power plants
- Prepared proposals for pre-feasibility, feasibility, and detailed-design projects focusing on hydroelectric power

- Coordinated the weekly seminar series of the firm's Geotechnical Division with national and international speakers
- Participated in conference organizing committee: XII International Benchmark Workshop on Numerical Analysis of Dams, Graz-Austria, 2013 (Theme B - "Long term behaviour of a rockfill dam")

National University of Colombia - Bogota Infrastructure Institute **Bogota, Colombia**
Junior Engineer (Project No. IDU 067/2002) 2004-2005

GEOCING LTDA. Consultants **Bogota, Colombia**
Junior Engineer (8 projects) 2003-2004

GIA Consultores LTDA. **Bogota, Colombia**
Student intern (2 projects) 2002-2003