

# JHON JAIRO SILVA CASTRO

504 Rose Street, M&MRB  
Lexington, KY 40506

(859) 257- 1173  
[jhon.silva@uky.edu](mailto:jhon.silva@uky.edu)

## EDUCATION

<b>UNIVERSITY OF KENTUCKY</b> Ph.D, Mining Engineering	Lexington, Kentucky 2012
<b>UNIVERSIDAD NACIONAL DE COLOMBIA</b> M.Sc. Geotechnical Engineering, Civil Engineer Department	Bogotá D.C., Colombia 2003
<b>UNIVERSIDAD NACIONAL DE COLOMBIA</b> B.S Civil Engineer	Bogotá D.C., Colombia 1996

## **Background:**

2013 –	Assistant Professor University of Kentucky., Lexington, Kentucky, USA.
2012 - 2013	Senior Project Manager ECSI. LLC, Lexington, Kentucky, USA.
2008 – 2012	Ph. D Student & Research Assistant University of Kentucky., Lexington, Kentucky, USA.
2006 – 2008	Senior Engineer Consultant Rocas y Minerales, Ltda., Bogotá Colombia, South America
2001 – 2006	Geotechnical Engineer Rocas y Minerales, Ltda., Bogotá Colombia, South America
1998 – 1999	Temporary Professor Universidad Nacional de Colombia, Bogota, Colombia
1996 – 1998	Civil Engineer Consultoría Colombiana CONCOL

## WORK EXPERIENCE

2013 -	<b>UNIVERSITY OF KENTUCKY</b> Assistant Professor Elements of Mine Design- MNG 291, Mine Design I – MNG 591, Surface Mine Design – MNG 463
2012 - 2013	ECSI, LLC. Senior Project Manager Engineer. <ul style="list-style-type: none"><li>• Flour Spar exploration project. Technical support for the mining pre-feasibility study in Western Kentucky. Activities include Geological modeling, mineral reserve evaluations, predictive geological mapping, mine design.</li><li>• GCA Professional Services. Technical support for the mineral evaluation of coal deposits in China. Activities include Geological modeling, and evaluation of feasibility studies.</li><li>• Bluegrass Materials Company. Block model for Oolites in the Bowling Green South quarry mine. Annual stripping calculations report.</li></ul>

## **Selected Projects/Activities in Colombia:**

Prodeco S.A:	Technical support and mining feasibility study for a specific area within the whole mining permit. La Jagua de Ibirico, Cesar. Project included reserve evaluation and mine planning.
BHP	Billiton: Technical support for the geological modeling in the software Surpac-Vision for a coal deposit in Córdoba. Project included geological modeling and reserve evaluation.

Consortio Minero Unido CMU: Technical support for the mine scheduling and planning in the Yerbabuena coal mine in Cesar. Project included mine planning and design including production scheduling.

CoalCorp: Geotechnical Engineer for the geotechnical assessment in the area B of the La Francia coal mine in Cesar. Project included technical support of all geotechnical engineering services, including geology, rock mechanics tests and slope stability analysis.

Carbones Colombianos del Cerrejón: Geotechnical Engineer for the geotechnical assessment in the CAYPA mine. Project included technical support of all geotechnical engineering services, including geology, rock mechanics tests and slope stability analysis.

Cemex Colombia S.A: Blasting Design, Instrumentation and Blast Mitigation.  
-Caracolito Mine Limestone  
-Belén Mine Limestone  
Project included technical support of Blast Mitigation program.

### **COMPUTER SKILLS**

Autocad, Rocscience software (Slide, Dips, Swedge, etc.) SurpacVision, Survcadd, Vulcan, Visual Basic, Flac 2D-3D, Plaxis.

### **LANGUAGES**

Native: Spanish, Second: English

### **PUBLICATIONS**

#### **Journals (Published)**

- Lifeng Li, Jhon Silva-Castro, “Use of Basic Statistics for the Overlapping Timing Analysis of a Single Blast Hole” Blasting and Fragmentation. Vol.9, No.2, 2015
- Jhon Silva Castro and Braden Lusk, “Signature hole method for ground vibration and airblast in mine blasting; Convolution or Superposition?” (2014) Blasting and Fragmentation.
- Kumar, D., Silva, J., and Sweigard, R.J. (2013), “Stability analysis for steep-slope mines reclaimed using the forestry reclamation approach”, SME-Transaction, 2013, Vol. 334, No1, pp.457-464.
- Jhon Silva Castro and Braden Lusk, “Monte Carlo Approach to Signature Hole Analysis”. 2013 Blasting and Fragmentation. Vol. 7, No.1, pp. 47-62.

#### **Journals (Submitted)**

- Jhon Silva, Lifeng Li, “Deconvolution of Blast Vibration Signals by Wiener Filtering,” Submitted to Journal of Applied Geophysics/ Impact Factor:1.355. Status: With Journal (W\*)
- Jhon Silva, “A novel Methodology to Control and Predict Ground Vibrations from Mine Blasting,” Submitted to International Journal of Rock Mechanics and Mining Sciences/ Impact Factor:2.010. Status: With Editor
- Jhon Silva, Lifeng Li, Gernard Jeremy, “Reliability Analysis for Mine Blast Performance Based on Delay Type and Firing Time,” Submitted to International Journal of Mining Science and Technology / Impact Factor:1.469. Status: Reviewer Invited (W\*)
- Jhon Silva, Russell Lamont, “Dispersion Signal Analysis in a Split-Hopkinson Pressure Bar at the University of Kentucky,” Submitted to Blasting and Fragmentation / Impact Factor: ~ . Status: With Editor (W\*)

#### **Conference Papers**

- Jhon Silva, “Improved Signature Hole Technique – What is a Signature Waveform?”, ISEE's 43st Annual Conference on Explosives and Blasting Technique (ISEE 2017). (W)
- Lifeng Li, Jhon Silva, “Spectral Division Deconvolution of Blast Vibration Signals for Signature Estimation”, ISEE's 43st Annual Conference on Explosives and Blasting Technique (ISEE 2017). (W\*)
- Jhon Silva, Sharma Abhinav, “Estimating the Effect of Underground Blasting Induced Vibrations on the Stability of a Highwall at a Limestone Quarry”, Rock Mechanics Association Annual Conference (ARMA 2017).

- Lifeng Li, Jhon Silva-Castro, “Reliability of Timing Sequence Network for Multiple Blast Holes”, ISEE's 42st Annual Conference on Explosives and Blasting Technique (ISEE 2016).
- Jhon Silva-Castro, Braden Lusk, Neal Lee, Patrick Jenks. “Concepts and Case Study for Regular Rhythmic Timing and Sequence”, ISEE's 42st Annual Conference on Explosives and Blasting Technique (ISEE 2016).
- Jhon Silva-Castro “Improved signature hole analysis for blast vibration control in open pit mines”, Rock Mechanics Association Annual Conference (ARMA 2016).
- J. Silva Castro, B. Lusk, “Comparison of Traditional Signature Hole Technique and Monte Carlo Approach”. 2013, General Proceedings, ISEE’s 39th Annual Conference on Explosives & Blasting Technique, Fort Worth, Texas, USA.

### **Conference Presentations**

- Russ Lamont, Jhon Silva, “Design and Constructions Considerations for Compressed Air Lines to Refuge Alternatives”, SME Annual Conference (SME 2017).
- Russ Lamont, Jhon Silva, “Dispersion Signal Analysis in a Split-Hopkinson Pressure Bar at the University of Kentucky”, SME Annual Conference (SME 2017).
- Jhon Silva-Castro, Russ Lamont “Refuge Alternative, Protecting the compressed air line”, SME Annual Conference (SME 2016).
- Jhon Silva-Castro, Braden Lusk, Path Jenks “Modification of Trim Shots Timing and Sequencing Utilizing an Improved Signature-Hole Technique: A Case Study at Cortez Gold Mines, northeast Nevada”, SME Annual Conference (SME 2016).
- Path Jenks, Jhon Silva-Castro “Minimizing Blast Vibrations on Fixed Geotechnical Performance Monitoring Equipment Utilizing an Improved Signature-Hole Technique: A Case Study at Cortez Gold Mines, northeast Nevada”, SME Annual Conference (SME 2016).

### **Reports**

- Jhon Silva, B. Lusk, “**Design and Construction Considerations for a Protected Compressed Air Line to A Refuge Alternative**”. Project funded by NIOSH Cooperative Agreement number 200-2014-60047. Aug 2016.
- Lusk, B.T., J. Silva Castro, “**Field Testing and Analysis of Blasts Utilizing Short Delays with Electronic Detonators**”. Project funded by OSM Cooperative Agreement number S09AP15632. Aug 2013.
- Lusk, B.T., J. Silva Castro, “**Acoustic Response of Structures to Blasting Analyzed against Comfort Levels of Residents near Surface Coal Operations**”. Project funded by OSM Cooperative Agreement number S07AP12481. Dec 2009.