

## Sonjia Leyva

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### Education

- *Master of Science, Geology (2002)* – California State University, Los Angeles
- *Bachelor of Science, Geology (1995)* – California State University, Los Angeles

### Employment History

- *Adjunct Faculty: Pasadena City College, Geology Department (6/06 - present)* Teaching undergraduate Oceanography classes; organizing and creating lecture and laboratory materials to meet course objectives; evaluating student understanding and skills; mentoring students; and maintaining all necessary records.
- *Lecturer A: CSU Los Angeles, Department of Geological Sciences (1/03 – Present)* Responsibilities include teaching the undergraduate lecture and laboratory sections of Introductory Geology, Earth Science for Teachers, and Oceanography in addition to the upper division Urban Geology and Environmental Geology of Developing Nations courses. Other duties include preparing lectures and laboratory activities, assessing student progress (grading, required record keeping, etc), and participating in departmental functions.
- *Associate Geologist: Pacific Soils Engineering – Cypress, California (1/98 – 9/00)* Responsibilities included: geologic investigations for residential and commercial developments; fault studies and assessment of geologic hazards; geologic mapping and site reconnaissance; detailed logging of test borings and trenches; analyzation aerial photographs; preparation of geotechnical reports; and in-grading inspections and geologic mapping.
- *Geologist: Hatch-Mott MacDonald – North Hollywood, California (2/96 – 1/98)* Responsible for mapping, groundwater monitoring and initial geologic assessment during the construction of the Metro Red Line Segment 3 from Universal Studios to Hollywood. Created and maintained a database containing groundwater flow rates over time and ground quality and conditions. Information obtained helped determine the stability of the surrounding bedrock during tunnel construction and identify and abate potentially dangerous conditions.
- *Technician 1: Black and Veatch – Highland, California (3/95- 2/96)* Responsible for testing samples from various zones during the construction of the Seven Oaks Dam in San Bernardino, California. Tests performed include: gradations, 4 and 5 foot water ring replacement, 6 and 12 inch sand cones, and Atterberg limits. Results of these tests determined if the material was within ASTM and COE specs. Assisted Army Corps of Engineers as a grout inspector and assistant geologist. Supervised drilling of: grout holes, water pressure tests, grout
- *Field Geologist: U. S. Borax Inc. – Valencia, California (6/94 – 12/94)* Responsible for assisting four exploration geologists and providing field support at exploration drill sites in Death Valley (borates), Minnesota (kaolin) and Georgia (kaolin). Supervised drillers while on drill sites, identified cuttings, logged the cores, and determined which samples to analyze. Evaluation of mineral quality determined the mining potential and economic value of the site.
- *Laboratory Technician: U. S. Borax Inc. – Valencia, California (6/93 – 6/94)* Responsible for the technical support of 10 chemists, 4 exploration geologists and over a 100 customers. Analyzed, interpreted and provided identification of mineral phases using an x-ray diffractometer and a scanning electron microscope. Compiled, organized and wrote five Quality Assurance Procedures for the Wilmington plant. Adoption and implementation of these procedures assisted in obtaining ISO 9000 certification for U.S. Borax.
- *Geophysical Technician: Unocal – Los Angeles, California (2/89 to 6/92)* Responsible for managing all gravity and magnetic data for the Potential Fields Group. Created, updated and managed a database using dBASE IV to record all available data for each country. Drafted maps of various scales using gravity, magnetic and elevation data within given deadlines. Production of these maps aided in the assessment of the exploration potential of a prospective site.

## Research Interests

- Paleocene-aged strata in the San Joaquin Hills, Santa Ana Mountains and Santa Monica Mountains.
- Paleosol development and distribution
- Climate change, especially the Late Paleocene Thermal Maximum and Ice Core research.
- Earth Science Education and integration of computers/technology into geoscience curriculum

## Publications

### *Primary Author*

- Leyva, S. M., 2002, Paleosols of The Paleocene Silverado Formation, San Joaquin Hills, California: Development, Distribution and Paleoclimatic Implications (M.S. Thesis), Los Angeles, California State University.
- Leyva, S. M. and Ramirez, P. C., 2001, Evidence for a Possible Tropical To Subtropical Climate in Southern California During the Paleocene: Laterite Paleosols of the Silverado Formation, San Joaquin Hills, CA: 2001 GSA Abstracts with Program, p A-36.
- Leyva, S. M. and Ramirez, P. C., 2001, Tropical Residual Paleosols of the Silverado Formation, San Joaquin Hills, CA: 2001 SACNAS National Conference Program, p. 207.
- Leyva, S. M. and Ramirez, P. C., 2000, Development and Distribution of Lateritic Paleosols in the Paleogene Silverado Formation, San Joaquin Hills, California: SPE/AAPG Western Regional Meeting, 19-23 June 2000, Long Beach, California, p 60.
- Leyva, S. M. and Ramirez, P. C., 2000, From Arkoses to Laterites: Compositional Analysis of Paleosols within the Paleogene Silverado Formation, Northern Peninsular Ranges, California: GSA Abstracts with Program, p A95.
- Leyva, S. M. and Ramirez, P. C., 1999, Paleosol occurrences in the Paleogene Silverado Formation, Northern Peninsular Ranges, California: GSA Abstracts with Program, p A-74.
- Leyva, S. M., Ramirez, P. C., and Lima, R., 1999, Paleosol Development and Quartz Dissolution in the Paleogene Silverado Formation, San Joaquin Hills, California: Southern California Academy of Sciences Program and Abstracts, Annual Meeting, April 30-May 1 1999, California State University Dominguez Hills, p 56.

### *Co-Author*

- Ramirez, Pedro C., White, Tim, Leyva, Sonjia M., And Colburn, Ivan P., 2005, Paleogene Paleosol Occurrences In The Santa Monica Mountains, Santa Ana Mountains And In The San Joaquin Hills, Southern California: 2005 GSA Abstracts with Program
- Ramirez, P. C., Colburn, I. P., and Leyva, S. M., 2002, Probable Lateritic Paleocene Paleosols of Southern California: 2002 GSA Abstracts with Program.
- Lima, R., Ramirez, P. C., and Leyva, S. M., 1999, Origin of a Quartz-rich Sandstone in the Paleogene Silverado Formation, Northern Peninsular Ranges, California: Southern California Academy of Sciences Program and Abstracts, Annual Meeting, April 30-May 1 1999, California State University Dominguez Hills, p 56.
- Pacific Soils Engineering, 1997, EIR-Level Geotechnical Study and fault investigation, Hughes Fullerton Campus Site, City of Fullerton, California; Unpublished Consultant's Report (Pacific Soils Engineering)

## **Related Professional Activities**

### *Professional Societies*

- Geological Society of America Society of Economic Mineralogists and Petrologists
- Professional Development
- GSA Short Course: Paleogeographic Reconstruction Techniques (2001)
- CSULA Special Topics in Geology: Engineering Geology of Concrete Gravity Dams (1997)
- Metro Red Line Construction Safety Education: Tunnel Hazard Awareness Training (1996)
- U.S. Army Corps of Engineers: Procedures and Inspection For Earthwork Construction (1995).

### *Awards and Honors*

- Graduate Student: Awarded while working full time: the AAPG Van Covering Award (2000); the Martin Stout Scholarship (1999); and the Robert Stone Graduate Scholarship (1998)
- Undergraduate Student: Awarded while working full time: the Chance-Dana Scholarship (1991), the National Dean's Honor Roll (1991) and participated in the G. E. Honors Program.

### *Related Educational Activities*

- Designed and developed a website for my courses at CSULA (<http://www.geophile.net/College>)
- Updated the CSULA Department of Geological Science's Oceanography lab manual
- Designed and developed a Landslide Hazard Activity for use in a publication.
- Helped to develop the lesson plan for "The Founding of America: A Standards-based Lesson Plan for Eleventh Grade United States History " for special education students. Created a web site for the lesson plan (<http://home.earthlink.net/~mmslugg/Salt2000/>).

### *University & Community Service*

- Delta Zeta Sorority, Pasadena Foothill Alumnae: Webmistress (2002 - present), President (2001 - 2006), Vice President (1993-1994), Newsletter Editor (1990 -1997)
- Delta Zeta Sorority Lamplighters of Southern California: co-chair of the 1998 Flame Fantasy benefit for the House Ear Institute
- Delta Zeta Sorority, Great Western Region: Great Western Region State Membership Chair, Southern California –1 area (Pasadena-Foothill, San Fernando Valley, South Bay, and Westchester)
- Docent, Southwest Museum: (2000 - 2003)