

Juan F. Perri, Ph.D., P.E.
Managing Engineer

Professional Profile

Dr. Perri specializes in soil mechanics, geotechnical engineering, foundation engineering, and earthquake engineering. He has extensive experience in the evaluation of flood control systems, including canals, dams, and levees. He has completed a full range of geotechnical studies for levee systems, involving the development of exploration plans, site characterization, seepage evaluation, strength characterization, static slope stability analyses, erosion potential evaluation, probabilistic risk assessment, liquefaction analyses, and seismic vulnerability assessments. In addition, he has worked on the development and evaluation of preliminary alternative designs for remediation of levee deficiencies and liquefaction mitigation through ground improvement. He has performed canal inspections, and worked on the expansion of the Panama Canal.

Dr. Perri has strong expertise in mass grading, slope stability and landslides, slope stabilization measures, design and testing of ground anchors, evaluation of fly-ash embankments, structural and geotechnical monitoring, rigid and flexible retaining walls, foundation design, earth pressures, soil settlement and design of pile foundations for offshore structures. Dr. Perri has also experience in conducting studies on ground vibrations, site amplification, wave propagation, liquefaction, and lateral spreading. He has worked on the design of static and seismic ground improvement systems, deep excavations, embankments, and deep and shallow foundations for hospital buildings. Dr. Perri has international experience in the countries of Italy, Venezuela, Panama and Mexico.

Dr. Perri's doctoral research focused on geotechnical earthquake engineering, deep foundations for offshore structures, geotechnical constitutive modeling, and human factors in geotechnical engineering failures. At the University of California, Berkeley, he served as a graduate student researcher and was the teaching assistant for six graduate and undergraduate courses in soil mechanics, waste containment systems, risk assessment, and strong motion seismology.

Academic Credentials and Professional Honors

Ph.D., Ocean Engineering, Civil and Environmental Engineering, University of California, Berkeley, 2007

M.S., Civil and Environmental Engineering, University of California, Berkeley, 2006

M.S., Ocean Engineering, University of California, Berkeley, 2003

M.S., Civil Engineering, Politecnico di Torino, Italy, 2002

B.S., Civil Engineering, Politecnico di Torino, Italy, 2002

Management of Technology Certificate, University of California, Berkeley, 2005;

Delegate for Venezuela in the 3rd International Young Geotechnical Engineer Conference, Osaka, Japan, 2005

Licenses and Certifications

Registered Professional Civil Engineer, California, #75084

Registered Professional Civil Engineer, Oregon, #85888

Licensed Professional Civil Engineer, Italy

Languages

Spanish – native

Italian – native

French – conversational

Publications and Presentations

Perri JF, Shewbridge SE, Cobos-Roa DA, Green RK. Steady state seepage pore water pressures influence in the slope stability analysis of levees. Geotechnical Special Publication No. 225, Proceedings, 2012 GeoCongress, Oakland, CA, 2012.

Perri JF, Pestana JM. Selección de registros sísmicos para aplicaciones de ingeniería con el uso del Short-Time-Response (Ground motion selection for engineering applications with the use of the Short-Time-Response-Spectrum). XIX Seminario Venezolano de Geotecnia, Caracas, Venezuela, 2010.

Perri JF, Shewbridge SE, Millet R, Huang W, Vargas J, Inamine M, Mahnke S. Site factor for use of velocity-based EFA erosion rates. Proceedings, 5th International Conference on Scour and Erosion (ICSE5), San Francisco, CA, 2010.

Huang W, Shewbridge SE, Perri JF, Millet R, Vargas J, Inamine M, Mahnke S. Levee erosion screening process. Proceedings, 5th International Conference on Scour and Erosion (ICSE5), San Francisco, CA, 2010.

Shewbridge SE, Perri JF, Mineart P, Millet R, Huang W, Vargas J, Inamine M, Mahnke S. Levee erosion prediction equations calibrated with laboratory testing. Proceedings, 5th International Conference on Scour and Erosion (ICSE5), San Francisco, CA, 2010.

Huang W, Millet R, Shewbridge SE, Perri JF, Vargas J, Inamine M, Mahnke S. Levee erosion screening process. 30th USSD Annual Meeting and Conference, Sacramento, CA, 2010.

Perri JF. Geotechnical assessment of levee performance. Invited speaker for the 50th Anniversary of the Venezuelan Geotechnical Society, Caracas, Venezuela, 2008.

Perri JF, Pestana JM, Aubeny C. Modeling soil deformation and excess pore pressure generation around a closed ended pile in soft clays. XIII Pan-American Conference on Soil Mechanics and Geotechnical Engineering, Margarita Island, Venezuela, 2007.

Perri JF, Pestana JM. Use of the short time response spectrum for selection of spectrally matched ground motions. 4th International Conference on Earthquake Geotechnical Engineering, Thessaloniki, Greece, June 25–28, 2007.

Perri JF, Pestana JM. Applications of the short-time-response-spectrum. UCB/GeoEngineering Report, Department of Civil and Environmental Engineering, University of California, Berkeley, 2007.

Perri JF, Dreger, DS. Seismic waveform modeling offshore of southern California: The 2002 Santa Barbara Island, California, earthquake. Conference Commemorating the 100th Anniversary of the 1906 Earthquake, San Francisco, CA, 2006.

Perri JF, Pestana JM, Bea RG. Applications of the short-time-response-spectrum. Conference Commemorating the 100th Anniversary of the 1906 Earthquake, San Francisco, CA, 2006.

Perri JF. The observational method and the human and organizational factors in the failure of a retaining wall. Official delegate for Venezuela in the 3rd International Young Geotechnical Engineer Conference, Osaka, Japan, 2005.

Perri JF, Bea RG, Pestana JM. The short-time-response-spectrum. UCB/GeoEngineering Report, Department of Civil and Environmental Engineering, University of California, Berkeley, CA, 2005.

Perri JF. Reliability study on the temporary support of ‘La Linea Tunnel’ for the Metropolitanian Railway in Los Teques-Venezuela. Seminario Internacional ‘South American Tunnelling,’ Sao Paulo, Brazil, 2004.

Argoul P, Ceravolo R, De Stefano A, Perri JF. Instantaneous estimators of structural damping from linear time-frequency representations. 3rd World Conference on Structural Control, Como, Italy, 2002.

Prior Experience

URS Corporation, Engineer, Geotechnical Engineering Department, 2007–2010
GeoCities Engineering, Consultant, 2004
Geohidra, Geotechnical Design Engineer, June-July 2003
Geodata, Geotechnical Design Engineer, March-July 2002

Project Experience

Participated in the evaluation of flood control systems, providing service for the US Army Corps of Engineers (USACE) and the California Department of Water Resources (DWR). Work included management of the geotechnical analyses task for the evaluation and assessment of levee performance in urban areas in California and the development of procedures for the evaluation of the systems' expected geotechnical performance. The engineering analyses included site characterization, seepage analyses, strength characterization, static stability analyses, erosion potential evaluation, liquefaction triggering evaluation, and seismic vulnerability assessment of existing levees. In addition, participated in the development and evaluation of preliminary alternative designs for remediation of levee deficiencies.

Supported an external panel of experts in the strength selection and characterization of geotechnical materials expected to be encountered in the Central Valley of California. Supported an external panel of experts in their assessment of the erosion potential evaluation procedures and material characterization for erosion analyses of the levee system.

For levees protecting non-urban areas in the Central Valley of California, participated in the evaluation of available levee past performance, as well as geotechnical, geological, geomorphologic, and topographical data. Participated in field inspections of the current conditions of canals in California and in the analyses and evaluation of the existing conditions of a reservoir in San Francisco. Performed site characterization, liquefaction triggering analyses and post-liquefaction assessment and designed foundations and soil improvement systems (stone columns and compaction grouting) for multi-story buildings.

Analyzed the causes of a slope failure and assessed remediation alternatives, while monitoring the slope and adjacent structures. Reviewed and provided recommendations for mass grading plans and design and construction of flexible and rigid retaining structures.

Internationally, participated in the geotechnical design of dams and foundation characterization for the expansion of the Panama Canal, in the assessment of ship grounding impact on the proposed dams' performance, and in the design of spoil containment levees for the Panama Canal. In Venezuela, implemented advanced numerical soil models for analyses of railroad embankments, developed attenuation relationships from the measurements of vibrations caused by tunnel excavation with explosives, and participated in the design of temporary and permanent tunnel supports, including static and seismic loads, for railroad tunnels. Also in Venezuela, participated in the design of pile foundations in the Plataforma Deltana area. In Italy, participated in the design of retaining structures under an existing historical railway station.

Peer Reviews

- XIII Pan-American Conference on Soil Mechanics and Geotechnical Engineering, Margarita Island, Venezuela, 2007.

Professional Affiliations

- American Society of Civil Engineers—ASCE
- Society of Naval Architecture and Marine Engineers—SNAME