

WORK ADDRESS:

Tecnológico de Costa Rica. (www.tec.ac.cr)
School of Construction Engineering / Engineering Office at TEC
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Miguel Peralta Salas



PERSONAL DATA:

Date of birth: Sept 1, 1987
Place of birth: Cartago, Costa Rica
Nationality: Costa Rican
Status: Single

EDUCATION/ Professional studies:

- **Master of Science in Structural and Geotechnical Engineering**

Sept 2013. Escuela de Ingeniería Estructural y Geotécnica, Pontificia Universidad Católica de Chile (PUC). Santiago, Chile. (www.uc.cl). Theme; *"Modal contribution to the elastic seismic response of reinforced concrete walls"*

- **Bachelor of Construction Engineering.**

Sept 2010 - Costa Rica Institute of Technology (ITCR). Cartago, Costa Rica.

EMPLOYMENT:

Tecnológico de Costa Rica (TEC)

Cartago, Costa Rica.

Engineering Office at TEC.

2014 to present

Escuela de Ingeniería en Construcción. Professor, Structures and building systems.

2014 to present

- Coordinator course design workshop.
- Tutor of thesis and graduation projects
- Structural designer engineer infrastructure projects of the World Bank of the new buildings of ITCR.

Research experience

Projects:

- *Research Catholic University of Chile on random processes generating synthetic records compatible with design spectra given by rule, to perform structural analysis of time history type (linear or nonlinear). 2012-2013*

Teaching experience:

- Lectures on "Design Workshop" for Construction Engineering School at TEC.
- Lectures on "Tutor of thesis and graduation projects" for Construction Engineering School at TEC.
- Lectures on "Wood Structure" for Master of Forestry Program, Forestry Engineering School at TEC.
- Lectures on "Reinforcement Concrete design II" for Civil Engineering School at Universidad Autónoma de Centro América (UACA).
- Lectures on "Seismic Resistant Design" for Civil Engineering School at Universidad Autónoma de Centro América (UACA).
- Lectures on "Workshop of SAP2000" for Civil Engineering School at Universidad Autónoma de Centro América (UACA).
- Lectures on "Structures III" for Civil Engineering School at Universidad Autónoma de Centro América (UACA).
- Lectures on "Linear Structural Analysis with SAP2000" for Colegio Federado de Ingenieros y Arquitectos de Costa Rica (CFIA).
- Lectures on "Design of Steel Structures" for Colegio Federado de Ingenieros y Arquitectos de Costa Rica (CFIA).

Engineering Office at TEC
Cartago, Costa Rica. Structural Engineer

2014-present

- *Structural design of the new building of the Digital Library of ECT in Carthage. Building of 3 levels with 3500 m².*
- *4 Structural design of steel buildings in the new headquarters of the TEC in Limon. 1 level buildings with 4500 m².*
- *Environmental Chemical structural design in the central core of the TEC campus, building of 4 levels with 9000 m².*
- *Structural Design School of Industrial Design at the central campus of the TEC, building on two levels with 2500 m².*
- *Structural design VIESA building in central campus of the TEC, building on two levels with 1800 m².*
- *Structural analysis and design of building foundations School of Electronics in the central campus of the TEC, building of 6 levels with 6000 m².*

**RCQ Ingeniería Estructural.
Santiago, Chile. Structural Engineer
2013**

- *Bridge structural analysis of Juan Soldado, located in the IV Region of Chile, between the towns of La Serena and Vallenar. Bridge 250 meters long with four strains of approximately 70 m. Bridge used seismic dissipation by frictional rubber insulators with cylindrical lead core.*
- *Different designs steel structures as lifts, special equipment in buildings, screens for signs on roads.*
- *Reviewing bearing capacity 6 existing bridges between the towns of Los Vilos and La Serena (IV Region of Chile) for a special 90- ton load.*

**JMC Ing.
Santiago, Chile. Structural Engineer
2012**

- *Structural and seismic review of more than 40 metal structures that make moving belts matter of new mining business park Sierra Gorda (Atacama - Chile)*

**Instituto Costarricense de Electricidad (ICE).
San José, Costa Rica. Structural Engineer
2010-2012**

- *Structural design of pit gates and hydraulic gate for enabling the second tunnel driving Expansion and Modernization Project Cachi Hydroelectric Project ICE*
- *Structural design of the aqueduct Doan to the communities of San Miguel and Palmichal to project Expansion and Modernization Cachi Hydroelectric Project. ICE*
- *Bridge Access Window "A" of the new tunnel driving Cachi Expansion Project for Expansion and Modernization Project Cachi Hydroelectric Project. ICE.*
- *Diversion and channeling water well Window "B " driving the new tunnel Project Cachi Plant Expansion, Extension and Modernization Project for Cachi Hydroelectric Project. ICE*
- *Strengthening road bridge over the river Urasca for Expansion and Modernization Project Cachi Hydroelectric Project. ICE*
- *Cofferdam and stability analysis on the return of the powerhouse Hydroelectric Project Cachi for Expansion and Modernization Project Cachi Hydroelectric Project. ICE*
- *Analysis and stability of Bailey bridges for other than those established by AASHTO for Expansion and Modernization Project Cachi Hydroelectric project special charges ICE.*
- *Proposal for vertical shaft excavation for the new powerhouse of Plant Expansion Project Cachi for Expansion and Modernization Project Cachi Hydroelectric Project. ICE*
- *Different designs of square gutters with free gaps between 0.60 m and 15 m, warehouses, overhead cranes, water storage tanks, silos concrete foundations and bridges strongholds. There have been designs in steel, reinforced concrete, masonry and wood for Expansion and Modernization Project Cachi Hydroelectric Project. ICE.*

RESEARCH AND PROFESSIONAL INTERESTS

- Structural Analysis.
- Seismic Analysis.

- Power dissipation on structures.
- Structural Dynamics.
- Structural Design on reinforcement concrete, steel, masonry and wood structures.

PUBLICATIONS

- Peralta M. (2015). "Modal contribution to the elastic seismic response of buildings of reinforced concrete walls". In The 13th Seminar structural and earthquake engineering, Costa Rica.
- Peralta M. (2013). "Modal contribution to the elastic seismic response of buildings of reinforced concrete walls". Master thesis at Ponticia Universidad Católica de Chile.
- Peralta M. (2010). "Square Design Parametrized Culverts". Bachelor thesis at TEC.

SUPERVISION OF UNDERGRADUATE FINAL PROJECT

- Serrano, G. (2015) "*Análisis Estructural de Cimentaciones Superficiales. Comparación entre método analítico e Interacción Suelo Estructural*" [*Structural analysis of superficial foundations . Comparison of the analytical method and soil structure interaction*]. Bachelor of Construction Engineering (project in progress).
- Mendieta, E. (2015) "Análisis, Comparación y Diseño optimizado de Muros de Contención" [*Analysis , comparison and optimized design of Retaining Walls*]. Bachelor of Construction Engineering (project in progress).
- Calderón, K. (2015) "*Diseño Parametrizado de Tanque de Agua*" [*Parametrized Design of Water Tanks*]. Bachelor of Civil Engineering (project concluded).
- Solano, J. (2015). "*Inspección Estructural del Edificio Central del ICE*" [*Structral Inspection of Central Building ICE*]. Bachelor of Construction Engineering (project concluded).
- Cubilo, R. (2015). "*Propiedades de las Propiedades Elásticas Dinámicas para Edificios tipo marco: Caso Concreto Reforzado*" [*Dynamic properties of elastic properties for frame type buildings: Reinforced Concrete Case*]. Bachelor of Construction Engineering (project concluded).

PROFESSIONAL DEVELOPMENT COURSES

- (2015)-Seminario "*XIII Seminario de Ingeniería Estructural Y Sísmica Costa Rica 2015*" [13th Seminar structural and earthquake engineering Costa Rica 2015]. Asociación Costarricense de Ingeniería Estructural y Sísmica (ACIES) [Costa Rican Association of Structural and Seismic Engineering]. 36-hour workshop, San José, Costa Rica.
- (2015)-Seminario internacional ACI 318S-14 "*Nuevas Disposiciones y organización*" [*ACI-318S-14. New provisions and organization*]. American Concrete Institute. Chapter Costa Rica. 9-hour workshop, San José, Costa Rica.
- (2011)-Curso "diseño de Estructuras de Concreto Presforzado" [*Design of Presforced Structures*]. Instituto Costarricense de Electricidad (ICE9 feat Colegio de Ingenieros Civiles (CIC). 15-hour workshop, San José, Costa Rica.
- (2011)-Seminario "*Presa de Concreto Compactado con Rodillo (CCR)*" [Dam Roller Compacted Concrete (RCC)]. Sistema de Gestión de Calidad del LabCIVCO. 24-hour workshop, Cartago, Costa Rica.
- (2010)-Curso "Análisis y diseño estructural utilizando el programa Ram Advansed." [*Analysis and Structural Design with Ram Advanced Software*]. Programa de capacitación Interna, Instituto Costarricense de Electricidad (ICE). 20-hour workshop, Cartago, Costa Rica.
- (2009)-Curso "*Análisis estructural utilizando el programa SAP2000*" [*Structural Analysis with SAP2000 software*]. Programa de capacitación Interna, Escuela de Ingeniería en Construcción, Instituto Tecnológico de Costa Rica. 32-hour workshop, Cartago, Costa Rica.
- (2007)-Curso "*Dibujo asistido por computadora 3D*" [*Drawing by 3D computer assisted*]. Instituto Nacional de Aprendizaje (INA). 66-hour workshop, San José. Costa Rica.

- (2006)-Curso "Dibujo asistido por computadora 2D" [Drawing by 2D computer assisted]. Instituto Nacional de Aprendizaje (INA). 66-hour workshop, San José. Costa Rica.

MEMBERSHIP OF PROFESSIONAL ASSOCIATIONS/ENTITIES

- Colegio Federado de Ingenieros y Arquitectos (CFIA, Costa Rica) [Federated Association of Engineers and Architects]
- Asociación Costarricense de Ingeniería Estructural y Sísmica (ACIES, Costa Rica) [Costa Rican Association of Structural and Seismic Engineering].

COMPUTER SKILLS

- Windows platform.
- Microsoft Office Word, Excel, Power Point, Project.
- Autodesk AutoCAD 2D y 3D.
- Computers and Structures SAP2000.
- Computers and Structures Etabs.
- Computers and Structures CSI Column.
- Computers and Structures SAFE.
- Bentley. Ram Elements (Advance).
- PTC Software. MathCad.
- MathWorks – Matlab.
- DeapSoil
- Geopsy.

LANGUAGES SKILLS

English Level: Medium.
(2010-2011) English Now Integrated Skills Program, Centro Cultural Costarricense Norteamericano. 140-hour, Cartago, Costa Rica (*advanced levels studies in progress*). (not finished)

Spanish: mother tongue.