



Francisco Lopez

Principal Technical Engineer Dams

Professional Overview

Francisco has over twenty years of experience in the field of dams, seismic and structural engineering. He has led a team of more than 150 dam professionals located in Australia, New Zealand, Philippines, Chile, United Kingdom, Middle East, USA and Canada. He is recognized in the national and international dams industry, as a member of technical committees of the International Commission on Large Dams (ICOLD), the Australian National Commission on Large Dams (ANCOLD) and the US Society on Dams (USSD). Also as a member of working groups in charge of preparing technical guidelines and standards for the industry. And as a frequent author of technical papers and magazine articles presented and published at national and international level

Relevant Dams Experience

Rufiji Hydropower Project - (2019)

Client: Tanesco (Tanzania) – Elsewedy/Arab Contractors JV (Egypt)

Technical leader for the design of the 30 m high RCC cofferdam to protect the power house. The 2,100MW Rufiji hydropower project is being built on the Rufiji River in Stielger's Gorge, Selous Game Reserve of Tanzania. With a gross output of 5,920GWh, the plant will more than double the country's power generation capacity.

Paradise Dam Safety Improvement - (2019)

Client: SunWater (Australia)

Expert Technical Review Panel member for the assessment and upgrade works of the 52 m high RCC dam completed in 2005 and damaged by a major flood event in 2013.

Nullinga Dam - (2018)

Client: SunWater (QLD)

Technical leader for the options study and concept design of an **RCC dam** (options including dam heights of 35, 50 and 65 m high), comprising selection of dam type, overall layout (dam, spillway, outlet works and fishway) and cost estimation.

Cadiangullong Dam - (2018)

Client: ATC Williams / Newcrest Mining (NSW)

RCC specialist for the comprehensive inspection of the 44 m high **RCC** concrete gravity dam that supplies water for the operation of Cadia mine.

Keepit Dam - (2018 – On going)

Client: WaterNSW (NSW)

Technical leader for numerical analysis and design of repairing works of the cracked monoliths under **post-tensioning** loads of the 55 m high concrete gravity spillway.

Glenmaggie Dam Safety Review - (2018)

Client: Southern Rural Water (VIC)

Technical leader for the safety review of the 90 year old, 37 m high **post-tensioned** concrete gravity dam.

Years of Industry Experience

24 years

Qualifications and Memberships

- Master of Engineering (MSc Earthquake), Rose School – University of Pavia, Italy, 2002
- Research Scholar (subject Seismic Liquefaction), University of Canterbury, New Zealand, 2002
- B Eng (Hon Civil-Structural), Universidad Nacional de Colombia, 1995.

Key Skills and Competencies

- Technical leader and team member in more than 90 dam projects spanning four continents, which includes safety reviews, safety inspections, retrofitting, upgrade, decommission and design of existing and new dams of different types, as well as associated spillways, intake towers, gates, outlet tunnels and power stations
- Member of technical committees of the International Commission on Large Dams (ICOLD), the Australian National Commission on Large Dams (ANCOLD) and the US Society on Dams (USSD). Member of working groups in charge of preparing technical guidelines and standards for the industry.
- Frequent author of technical papers and magazine articles presented and published at national and international levels.

Professional History

- 2017 – Present | SMEC – Principal Technical Engineer Dams
- 2004 – 2017 | GHD
- 1996 – 2003 | Integral S.A (Colombia)

Lower Molongolo - (2018)

Client: Icon Water (ACT)

Peer reviewer for the stability assessment of the 32 m high **RCC dam** which is part of the Lower Molonglo Water Quality Control Centre (or LMWQCC), the largest inland treatment facility in Australia.

Chichester Dam (2016-2017)

Client: Hunter Water (NSW)

Structural team leader for the safety review and analysis of the 100 year old, 37 m high, **post-tensioned** cyclopean concrete arch-gravity dam.

Padcal Tailings Storage Facility No. 3 Spillway Design (2015-2017)

Client: Philex Mining Corporation(Philippines)

Structural team leader for the feasibility study of the 45 m high **RCC dam** spillway adjacent to the 200 m high tailings embankment. Seismic analysis.

Somerset Dam (2014-2015)

Client: Seqwater (QLD)

Structural team leader for the analysis of the 52 m high concrete gravity dam. The key objective of the feasibility study was to develop high level concepts and a range of upper bound cost estimates for upgrade works, in order to safely withstand extreme lake levels and to safely pass extreme floods up to the PMF

Ridgeway Dam Upgrade (2015-2017)

Client: TasWater (TAS)

Structural team leader for the detailed design of the works to upgrade the **post-tensioned** 100 year old arch-gravity dam

Mt Bold Dam Upgrade Options Study (2011-2017)

Client: South Australian Water (SA).

Structural team leader for preliminary designs of upgrade options for flood and earthquake loading, of the 58 m high concrete arch gravity dam with vertical lift gated spillway

Structural team leader for the full safety review of the dam, including 3D linear and nonlinear time-history analyses

Structural team leader for the options study to upgrade the dam, including alternatives of **post-tensioning** and buttressing

Barossa Dam Upgrade Options Study (2014-2016)

Client: South Australian Water (SA)

Structural team leader for preliminary designs of upgrade options for flood and earthquake loading, of the 36 m high cylindrical concrete arch dam

Structural team leader for Stages 1 and 2 of the full safety review of the dam, comprising site investigations, erosion assessment and 3D finite element assessment. Seismic analysis, including 3D linear and nonlinear time-history analyses.

Clover and Junction Dams (2012-2014)

Client: AGL Energy (VIC).

Seismic engineering specialist and structural team leader, as owner's engineers during the tender design phase for the upgrade of the 60 year old slab and buttress dams.

Structural team leader for the study of different options to upgrade and address the deficiencies of the dams, including concrete filling of the buttress bays and **post-tensioning** of the gravity abutments

Clover Dam - (2005-2006)

Client: AGL Energy (VIC)

Dam safety engineer for the comprehensive inspection of the 20 m high, concrete slab and buttress dam incorporating uncontrolled ogee spillway with crest flashboards, being part of the Kiewa hydro power scheme.

Structural team leader for Detailed analysis of the concrete slab and buttress dam, comprising finite element analysis and geotechnical investigations, to assess the structural stability of the dam in view of its current cracked condition.

Sturt River Dam(2011)

Client: South Australian Water (SA)

Structural team leader for the full safety review of the 40 m high double curvature arch dam with incorporated spillway and **post-tensioned** abutment thrust blocks. Seismic analysis

SRW Weirs – Part 1 - (2011-2012)

Client: Southern Rural Water (VIC)

Project Manager and **Structural team leader** for a Standards assessment of the Werribee (concrete), Bacchus Marsh (concrete) and Goodmans Creek (embankment) Diversion Weirs.

Cotter Dam - (2009-2012)

Client: ACTW

Structural team leader for the FE modelling of the Enlarged Cotter Dam, including the design of the New Cotter Dam, a 90 m high **RCC dam**. Thermal and seismic analysis.

Myponga Dam Safety Review - (2010)

Client: South Australian Water (SA)

Independent reviewer of the Stage 1 safety review of the 48 m high concrete arch dam with radial gated spillway

Cataract Dam - (2010)

Client: Sydney Catchment Authority (NSW)

Dam safety engineer for the five yearly surveillance inspection of a 56 m high cyclopean gravity dam with **post tensioned** anchors.

Cordeaux Dam - (2010)

Client: Sydney Catchment Authority (NSW)

Dam safety engineer for the five yearly surveillance inspection of a 56.5 m high cyclopean gravity dam

Rubicon Dams - (2009)

Client: AGL Energy (VIC)

Structural team leader for the detailed safety analysis of two slab and buttress dam and one arch dam, comprising finite element analysis and geotechnical investigations to assess stability and strength

Bolwarra Weir - (2009)

Client: Barwon Water (VIC)

Structural team leader for Decommissioning alternative for the gravity weir. The project comprised identification of decommission options and progression of one option to functional design and costing.

Junction Dam - (2005-2008)

Client: AGL Hydro (VIC)

Structural team leader for the detailed safety analysis of the concrete slab and buttress dam, comprising finite element analysis and geotechnical investigations to assess the structural stability of the dam

Dam safety engineer for the comprehensive inspection of the 27 m high, concrete slab and buttress dam incorporating uncontrolled ogee spillway with crest flashboards, being part of the Kiewa hydro power scheme

Lauriston Dam - (2008)

Client: Coliban Water (VIC)

Dam safety engineer for the inspection of a 33 m high, concrete massive head buttress dam with 10 vertical crest gates, dual outlet works and earthen embankment saddle dam.

Bolwarra Weir - (2007-2008)

Client: Barwon Water (VIC)

Structural team leader for identification and evaluation of upgrade options. The project comprises preliminary investigations, identification and evaluation of upgrade options and determination of a preferred upgrade option

Rubicon Falls Dam - (2005-2007)

Client: AGL Energy (VIC)

Structural team leader for the comprehensive inspection of the 7.8 m high, slab and buttress dam, being part of the Rubicon hydro power scheme

Royston Dam - (2005-2007)

Client: AGL Energy (VIC)

Structural team leader for the comprehensive inspection of the 10.8 m high, slab and buttress dams, being part of the Rubicon hydro power scheme

Rubicon Dam - (2005-2007)

Client: AGL Energy (VIC)

Structural team leader for the comprehensive inspection of the 12.5 m high cylindrical arch dam, being part of the Rubicon hydro power scheme

Porce II Hydroelectric Project - (1996-2001)

Client: Empresas Publicas de Medellin (Colombia)

Structural Specialist. Seismic and thermal analysis of the **RCC dam** of 123 m high and the mass concrete of the tunnels

Hidroituango Project - (1998-1999)

Client: Empresas Publicas de Medellin (Colombia)

Structural Specialist. Static and seismic analysis of the **RCC dam** alternatives of 120 and 150 m high. Feasibility study for arch-gravity dam alternative

Nechi Hydroelectric Project - (1997-1998)

Client: Empresas Publicas de Medellin (Colombia)

Structural Specialist. Analysis of 130, 150 and 180m high arch-gravity dam alternatives; static, seismic and thermal analysis of the selected 130m-high **RCC gravity dam**

Sabaletas Hydroelectric Project - (1997)

Client: Empresas Publicas de Medellin (Colombia)

Structural Specialist. Stability analysis and retrofit of the 10 m high arch dam. Involved in the inspection for structural pathology, finite element modelling and retrofitting by means of post-tensioning

Pirris and Peñas Blancas Dams - (2001)

Client: Costa Rican Institute of Electricity – ICE (Costa Rica)

Independent reviewer. Structural and seismic specialist to review the seismic and thermal analyses of the 113 m and 46 m high, respectively, **RCC dams**

Daniel Gutierrez Dam (1996)

Client: Compañía Nacional de Fuerza y Luz (Costa Rica)

Structural specialist. Thermal analysis and design of the concrete gravity spillway

Guadalupe IV - (1999-2000)

Client: Empresas Publicas de Medellin (Colombia)

Structural specialist for retrofitting of Guadalupe IV Power station, affected by seismic and impact loading. Included the inspection for structural pathology, seismic analysis, finite element modelling, diagnosis and retrofitting by means of **post-tensioning** and carbon reinforced fabric.

Calderas Dam - (1997)

Client: Empresas Publicas de Medellin (Colombia)

Structural specialist. Thermal analysis and comparison with installed instrumentation. Modelling of uplift load and comparison with piezometer records. (1997)

Relevant Spillway Experience

Kangaroo Creek Dam Upgrade (2014-2017)

Client: South Australian Water (SA)

Structural design manager for the structural components of the works to raise the embankment by 3.8 m, as part of the flood upgrade of the 64.5 m high concrete face rockfill dam, including the raise of the 22 m high concrete gravity end abutment wall, and the raise and **post-tensioning** of the 13 m high spillway ogee

Allen Reservoir Upgrade (2014)

Client: Barwon Water Alliance (VIC)

Structural team leader for upgrading of spillway works

Korweinguboora Dam - (2011)

Client: Barwon Water (VIC)

Project Manager for the options study for the refurbishment/replacement of the 100 year old syphon spillway

Lake William Hovell Dam - (2009)

Client: Goulburn-Murray Water (VIC)

Structural team leader for the Safety Upgrade Project including embankment raise, filter extension, ogee spillway anchoring and training wall raise for the 35 m high earth / rockfill dam. Seismic analysis

Eildon Regulating Dam - (2007-2009)

Client: AGL Energy (VIC)

Structural team leader and Dam safety engineer for the comprehensive inspection of the 12 m high, earthen dam and concrete gravity spillway incorporating three vertical lift gates, being part of the Eildon hydro power scheme

Newlyn Dam - (2005)

Client: Goulburn-Murray Water (VIC)

Structural team leader for the Safety Review and concept design of remedial works of the 12 m high earthfill embankment, and central concrete overflow spillway. Project involves material investigations, stability analysis, analysis of spillway capacity, preliminary design and costing of possible remedial options to rectify any deficiencies identified

Rocklands Dam - (2005)

Client: Client: Grampians Wimmera Mallee Water (VIC)

Structural team leader for the Safety review of the dam comprising a concrete gravity spillway structure flanked by concrete core wall rockfill embankments. The project consisted of a failure modes workshop, review of the hydrology and spillway flood capacity, a consequence assessment, and an assessment of the concrete and embankment dams and outlet works

Eildon Dam - (2004-2005)

Client: Client: Goulburn-Murray Water (VIC)

Structural team leader for the upgrading works to increase the reservoir capacity, including the existing and new raised walls, the parapet wall and chute slab **post-tensioning**

Other Dams Experience in Australia

Eurobodolla Dam - (2018)

Client: Eurobodolla Shire Council (NSW)

Technical leader for the design of a new 45 m high wet intake tower

Glenlyon Dam Intake Tower - (2018)

Client: Sun Water (QLD)

Technical leader for the safety review of the 40 year old, 40 m high wet intake tower

Callide Dam Intake Tower - (2018)

Client: Sun Water (QLD)

Technical leader for the safety review of the 55 year old, 42 m high wet, framed, intake tower

Porguera Mine Earthquake Recovery - (2018)

Client: Southern Rural Water (Papua New Guinea)

Technical leader for the inspection and emergency repair of damage caused to the mine's gabion dam and power station, which were affected by 7.5 and 6.7 magnitude earthquakes

Corin Dam Intake Tower - (2017)

Client: Icon Water (ATC)

Technical reviewer for the safety review of the 43 m high dry wet intake tower

Leslie Harrison Dam - (2015-2016)

Client: Seqwater (QLD)

Peer reviewer for structural analysis of the appurtenant works of the 535 m long zoned earthfill dam

Lower Stony Creek Dam - (2014)

Client: Barwon Water Alliance (VIC)

Dams/structural representative to inspect and assess impact of observed crack on the 16 m high arch gravity dam constructed in 1873

Ruataniwha Water Storage Scheme (2013)

Client: Hawke's Bay Regional Council (New Zealand)

Peer reviewer for the Tender Design for a new 83 m high intake tower in a high seismicity area, with a design PGA of 0.85g

Lake Bellfield Outlet Works Upgrade - (2012)

Dates: 2012

Client: Grampians Wimmera-Mallee Water

Structural team leader for the concept design to upgrade the intake capacity of the outlet tower.

Loy Yang High Level Storage Outlet Tower - (2012)

Dates: 2012

Client: Loy Yang Power (VIC)

Structural team leader for the seismic analysis of the 36 m high wet intake tower

Cooby Dam - (2011 – 2012)

Client: Toowoomba Regional Council (QLD).

Internal peer reviewer for the seismic design of the 40 m high dry intake tower

Bowraville Off-river Storage - (2011)

Client: Nambucca Shire Council (NSW)

Peer reviewer for the seismic design of the 50 m high wet intake tower

Loy Yang Settling Pond - (2011)

Client: Loy Yang Power (VIC)

Structural team leader for the seismic analysis of the spillway type Morning Glory and the internal peer reviewer seismic analysis of the outlet tower works

Moondarra Intake Tower - (2011)

Client: Gippsland Water (VIC)

Project Manager and **Structural team leader** for the nonlinear time-history analysis of the tower, including state-of-the-art Conditional Mean Spectrum matching and an analysis approach based on structural and hydraulic performance

Ewen Maddock Intake Tower - (2010)

Client: Seqwater (QLD)

Structural team leader for the seismic analysis of the 21 m high dry intake tower

Melbourne Main Sewer - (2007-2010)

Client: Melbourne Water Corporation (VIC)

Structural team leader for the detailed design of the river crossing of the Melbourne Main Reliever Sewer

Moondarra Reservoir - (2009)

Client: Gippsland Water (VIC)

Team member for the safety review of the dam and outlet structures and completion of concept design to resolve any deficiencies determined by review

Little Para Dam - (2009)

Client: South Australian Water

Structural team leader for Detailed Design of Remedial Works for Little Para Dam, including auxiliary spillway and dam crest raising

Clover and Junction Dams - (2008-2009)

Client: AGL Energy (VIC)

Project Manager and **structural team leader** for the further seismic analysis to determine the maximum earthquake that both dams can withstand.

South Para Dam - (2008)

Client: South Australian Water Corporation (SA)

Structural team leader for Stage 1 and Stage 2 safety reviews of the 45m high embankment dam including identification of remedial works to provide the required spillway capacity.

Glenelg Gates - (2007)

Client: Dep. of Water, Land and Biodiversity (SA Government)

Project Manager and **structural team leader** for the Options study to enhance the operation of the Glenelg gates for the next 40 years. The findings will assist the South Australian Government in determining the appropriate level of investment over the next 10 years.

Dartmouth LLOW Intake Tower - (2007)

Client: Goulburn-Murray Water (VIC)

Project Manager and **structural team leader** for the non-linear time-history analysis for seismic assessment. Concept design for seismic upgrading to remain operational after the design earthquake

West Barwon Intake Tower - (2007)

Client: Barwon Water (VIC)

Project Manager and **structural team leader** for the Spectral seismic assessment. Concept design for seismic upgrading to remain operational after the design earthquake

Mallaty Creek Pipeline Project - (2007)

Client: Jemena (NSW)

Internal reviewer for the finite element analysis of the pipeline in complex subsidence conditions

Tarago Dam Intake Tower - (2007)

Client: Melbourne Water Corporation (VIC)

Structural team leader for rocking analysis and bearing assessment of the foundation for the 32 m high intake tower.

Stirling Dam - (2006)

Client: Water Corporation (WA)

Analysis team leader for Stress finite element assessment of the embankment using the program FLAC.

Dight's Fall Weir - (2006)

Client: Melbourne Water Corporation (VIC)

Team member for investigation to address the structural issues associated with the weir. Consider the feasibility of re-engaging the millrace. Concept plan of the recommended option for use in consulting with both internal and external stakeholders

Cain Curran Stage 2 Upgrade - (2005-2006)

Client: Goulburn-Murray Water (VIC)

Team member for the upgrade to achieve an ALARP risk position, undertake detailed design and documentation of the upgrade provide associated construction costing and assist with planning approvals and provide construction support.

Lake Caroline

Client: Caroline Springs Council (VIC)

Structural team leader for the design review to ANCOLD standards of the newly constructed Lake Caroline, part of the new residential development West of Melbourne. (2005)

Daylesford Dam - (2005)

Client: Hepburn Shire (VIC)

Structural team leader for the detailed design, tendering and contract administration of remedial works. Preliminary design of remedial works, detailed design of remedial works and preparation of construction tender documentation, assessment of tenders, contract administration and construction supervision.

Cairn Curran Dam (2005)

Client: Goulburn-Murray Water (VIC)

Structural team leader for the Design and documentation for upgrade of outlet works pipes and valves.

Coliban No.7 Reservoir - (2005)

Client: Coliban Region Water Authority (VIC)

Structural team leader for the Design and preparation of tender documents for the refurbishment of the outlet works.

Cairn Curran Dam - (2005)

Client: Goulburn-Murray Water (VIC)

Structural team leader for the detailed design of intake tower low-level intake sluice flap gate replacement.

Tod River Dam - (2005)

Client: South Australian Water (SA)

Structural team leader for the upgrading works for the 25m high Tod River embankment. Structural team leader for the Concept design of the outlet tunnel extension and proposed stainless steel intake tower

Meander Dam - (2004-2005)

Client: John Holland / Shaw Contracting (TAS)

Dams engineer for the Tender design and associated work items for the Meander Dam Action Group consortium's bid for the detailed design, construction and operation of the **RCC** Meander Dam Project

Cairn Curran Dam - (2005)

Client: Goulburn-Murray Water (VIC)

Dams engineer for identification and evaluation of options to upgrade flood capacity of Cairn Curran Reservoir to accommodate PMF flood. Concept design of selected option

Clover Dam

Client: AGL Energy (VIC)

Dams engineer for the safety design review of the 20 m high slab and buttress dam. Assessing the geotechnical information, a seismic study, updating the flood studies, consequence and spillway flood capacity assessment, structural stability assessment, and outlet works condition and operation.

Little Para Dam (2004)

Client: South Australian Water (SA)

Dams engineer for the review the structural static and seismic stability of the embankment, the structural stability of the outlet tower under normal and earthquake loading, the flood capacity of the dam and spillway and the consequences of a dam failure

Moondarra Reservoir (2004)

Client: Gippsland Water (SA)

Dams engineer for the reconstruction cost estimate for Moondarra Reservoir for insurance purposes. The Project comprises a 45m-high rockfill type dam, spillway and outlet works

McDonalds Dam (2004)

Client: Western Water (VIC)

Dams engineer for the design and tender phase services for the detailed design of the following upgrade works for McDonalds Dam: a) Spillway channel upgrade works, b) Seepage collection system works, and c) Raising of the right hand end of the embankment

Pykes Creek Reservoir (2004)

Client: Southern Rural Water (VIC)

Dams engineer for the design and documentation of outlet works upgrade.

Other International Experience (1996 – up to present)

Lesotho

Katse Dam: For Lesotho Highlands Development Authority. **Dams/structural leader** in review and advise for concrete plugging of diversion tunnel No.2 of 185 m high double curvature arch dam built in 1996. (2019)

Chile

Neptune Due Diligence: For Pacific Hydro. **Dams/structural leader** in the asset valuation for the power generation company, involving assets in Chile and Australia. Coordination of team members and outputs prepared in In Australia, New Zealand, Chile and the UK. (2014 – 2015)

Nido de Aguilas and Los Arandanos Hydroelectric Projects: Bid for Pacific Hydro. Bid coordinator and **Dams/structural leader** for the bid for the design of the 125 and 76 MW, respectively, hydro projects. Coordination of a joint venture with companies and personnel based in Colombia, Chile and Australia. (2014)

USA

Roster Panel: For the San Francisco East Bay Municipal Utility District (EBMUD). **Dam expert** in the on-call roster for this entity that manages 28 dams in California. (2013 – 2016)

Multiple Dams: **Dams team leader** for of the stability assessment of several embankments and levees in upper New York State. (2012)

Colombia

Project director and **Structural team leader** for:

- Paper factories - Inspection, structural modelling, frequency analysis and recommendations for seismic risk mitigation of twelve industrial facilities. (2003)

- Grupo Antioqueño - Inspection, structural modelling, frequency analysis and recommendations for seismic risk mitigation of twelve industrial facilities. (2003)
- Ecopetrol - Seismic vulnerability of the oil refinery. Inspection, structural analysis, and design of remedial works. (2003)
- Structural Retrofitting Group / Structural Pathology Engineer – Field inspection and diagnosis, analysis and seismic upgrade of distribution power stations, masonry chimneys, water tanks and reinforced concrete buildings. (1997 – 2002)
- Multiple clients – Structural inspection of and seismic retrofitting of damaged buildings in three cities after the 1999 Eje Cafetero earthquake in Colombia. (1999)
- Cerromatoso S.A. - Modelling of thermal behaviour of the smelting furnaces cooling system of the nickel mine. (2001)
- Cerromatoso embankments 2 and 3 – Spillway calibration and general civil works (1996)

Dominican Republic

Sabanayegua Hydroelectric Project – **Structural team leader**. Stress modelling of the outlet works and structural design of retrofitting. (2002)

Multiple clients – **Structural team leader**. Inspections, determination and quantifications of structural damage in several facilities as a consequence of hurricane Georges. (1998-1999)

Moncion Hydroelectric Project - **Structural team leader**. Design of intake and outlet structures for the 123m-earthfill dam. (1996-1998)

Tanzania

Lower Kihansi Hydroelectric- **Structural team leader** for design of the concrete walls and anchorage for the pressured tunnel. (1998)

Relevant Publications

- Lopez, F., McKay M., Reid, J. “Nonlinear FE Analysis and Remedial Design of Cracked Dam Monoliths Subject to Large Post-tensioning, Flood and Earthquake Forces”. ANCOLD/NZSCOLD Conference. Auckland, New Zealand, October 2019
- Purss, C., Lopez, F., Gray, S. “Novel Solution for Ensuring Post-Earthquake Operability of Outlet Towers”. ANCOLD/NZSCOLD Conference. Auckland, New Zealand, October 2019
- Terzic, Z., Quigley, M. and Lopez, F. “Detailed Seismic Hazard assessment of Mt Bold area: comprehensive site-specific investigations on Willunga Fault”. ANCOLD Conference. Hobart, Australia, October 2017.
- Lopez, F. “The Seismic Assessment of Mt Bold Dam in South Australia”. Water Power and Dam Construction Magazine, September, 2016
- Lopez, F. et al. “Challenges of Upgrading and Replacing Dams in Australia”, The International Journal on Hydropower and Dams”, Vol 23, Issue 1, January 2016.
- McKay, M. and Lopez F. “Seismic Analysis of a Concrete Dam with a Complex Configuration: Nonlinear, Time History of Mt Bold”. ANCOLD / NZSOLD Conference. Brisbane, November 2015.
- Lopez, F and McKay, M. “Nonlinear Time-History Seismic Assessment of 112-Year-Old Barossa Dam”. ANCOLD / NZSOLD Conference. Canberra, November 2014.
- McKay, M. and Lopez, F. “Practical methodology for inclusion of uplift and pore pressures in analysis of concrete dams”. ANCOLD / NZSOLD Conference. Rotorua, New Zealand, November 2013.
- Lopez, F. and Chopra, A. “Response-History Analysis of the Moondarra Intake Tower: A Novel Approach Based on New Methodologies and Performance Requirements”. 24th ICOLD International Symposium and Congress, Kyoto, Japan. 2012.
- Messer, C., Lopez, F. and Laxman, M. “Finite Element Transient Thermal Analysis of the Enlarged Cotter Dam”. ANCOLD / NZSOLD Conference. Melbourne, Australia, 2011.
- Lopez, F. and Bosler J. “Inelastic seismic analysis of Dartmouth intake tower”. 23th ICOLD Congress, Brasilia, Brazil. 2009.
- Lopez, F. and Bosler J. “A methodology for the seismic assessment of buttress and slab dams”. Hydro 2007 Conference, Granada, Spain, October 2007.
- Bosler, J and Lopez, F. Safety evaluation of a slab and buttress dam”. ANCOLD / NZSOLD Conference. Queenstown, New Zealand, 2007.
- Bosler, J and Lopez, F. “Recent developments in the seismic analysis of intake towers”. ANCOLD / NZSOLD Conference. Sydney, Australia, 2006.

- Lopez, F. "Does liquefaction protect overlaying structures from ground shaking?". Research Report ISSN 0110-3326, University of Canterbury, New Zealand, June 2003.
- Lopez, F. "Assessment and structural rehabilitation with post-tensioning and CFRP of a power-house subjected to dynamic loading". FIB Symposium: Concrete Structures in Seismic Regions. Athens, Greece, May 2003.
- Lopez, F and Restrepo L.F. "The Thermal Analysis of RCC Porco II Dam". V Colombian Congress of Finite Element Analysis and Numerical Methods, EAFIT University, Medellin, Colombia. 2000.

Associations and Working Groups

- Member of the Australia Committee on Large Dams (ANCOLD)
- Member of ANCOLD working group for producing the "ANCOLD Concrete Arch Dam Guidelines"
- Member of US Society on Dams (USSD)
- Member of USSD "Technical Committee on Concrete Dams"
- Member of ICOLD "Committee A on Numerical Analysis of Dams"
- Member of ICOLD working group and lead author for production of ICOLD Bulletin on "Nonlinear Analysis of Concrete Dams"

Education

- Master of Engineering (MSc Earthquake), Rose School – University of Pavia, Italy, 2002
- Research Scholar in the subject of Seismic Liquefaction), University of Canterbury, New Zealand, 2002
- Bachelor in Engineering (Bs Eng Hons) Civil-Structural, Universidad Nacional de Colombia, 1995.