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Professional summary

Civil Engineer, University of Porto, 1978.

PhD Geo-Engineering, University of Minnesota, 1987.

Engineer, Software development, Itasca Consulting Group, Minneapolis, 1984-1988.

Researcher, Numerical Modelling and Rock Mechanics Division, Dams Department, LNEC.

Main areas of interest and activity

Numerical modelling in rock mechanics

Discrete element models

Concrete dam foundations

Masonry structures

Earthquake engineering

Selected publications

J.V. Lemos (2007) Discrete element modeling of masonry structures, *International Journal of Architectural Heritage*, 1(2):190. 213.

M.L.B. Farinha, J.V. Lemos and E. Maranhã das Neves (2011) Numerical modelling of borehole water-inflow tests in the foundation of the Alqueva arch dam, *Can. Geotech. J.*, 48(1):72. 88.

J.V. Lemos and N.S. Antunes (2011) Modelling of arch dam foundation failure scenarios - Case studies of Baixo Sabor and Alto Ceira dams, *Dam Engineering*, XXI(4):299-312.

J.V. Lemos (2012) Recent developments and future trends in distinct element methods . UDEC/3DEC and PFC codes, Keynote Lecture, ICADD-10, Honolulu, 6-8 Dec. 2011, in *Advances in Discontinuous Numerical Methods and Applications in Geomechanics and Geoengineering* (Eds. J. Zhao, Y. Ohnishi, G.-F. Zhao, T.Sasaki), CRC press, pp. 17-29.

J.V. Lemos (2012) Modelling the failure modes of dams' rock foundations, Chapter 14 of *MIR 2012 - Nuovi metodi di indagine, monitoraggio e modellazione degli ammassi rocciosi* (Ed. G. Barla), Politecnico di Torino, 2012, pp. 259-278.

J.V. Lemos (2013) Discontinuum Modelling in Rock Engineering, Manuel Rocha Lecture, *Soils and Rocks*, 36(2):137-158.

N.M. Azevedo and J.V.Lemos (2013) A 3D generalized rigid particle contact model for rock fracture, *Engineering Computations*, 30(2):277-300.

J.V. Lemos (2014) Representation of rock discontinuities in safety analysis of large dams, Keynote Lecture, Eurock-2014, Vigo, *Rock Engineering and Rock Mechanics: Structures in and on Rock Masses* (Alejano, Perucho, Olalla & Jiménez, Eds), Taylor & Francis Group, London, pp. 29-38.

E.M. Bretas, J.V. Lemos and P.B. Lourenço (2014) A DEM based tool for the safety analysis of masonry gravity dams, *Engineering Structures*, 59:248. 260.