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Emilio Linde-Arias, Ph.D., CEng, EurGeol

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Professional Profile

Dr. Linde-Arias has over twenty years of international experience in geotechnical engineering and engineering geology working for consultants and contractors on the management, planning, procurement, design and construction of large scale and complex infrastructure projects and underground structures. He has also has experience in construction commercial management and in delay analysis.

Dr. Linde-Arias has an extensive background in the supervision and construction of underground structures, including rail, road and hydro tunnels excavated by traditional (drill and blast) or mechanized (TBM) techniques. He has been responsible for the geotechnical supervision of some of the most important projects in recent years in the United Kingdom and Spain. Dr. Linde has also acted as resident engineer, being responsible for the quality control and safe and correct implementation of the design for sprayed concrete lined tunnels.

Dr. Linde-Arias is also particularly experienced in groundwater management for underground excavations, including active and passive methods. He has assessed surface settlement in an urban environment due to dewatering and underground excavations. Dr. Linde has also evaluated, designed and monitored earthworks (slopes and embankments) in soils and rocks.

Dr. Linde-Arias has provided testimony and expert opinion in the International Centre for Settlement of Investment Disputes (ICSID) and the International Chamber of Commerce, (ICC).

As a delay consultant, Dr Linde-Arias' experience spans a broad range of industries including commercial property development, petrochemical, power generation, oil and gas, and transportation, where he has been involved in the preparation of expert reports on delay and disruption analysis for formal dispute proceedings.

Dr. Linde-Arias international experience encompass projects in Europe, the Middle East, Asia and North and South America.

Academic Credentials & Professional Honors

Ph.D., Geosciences, University of Oviedo, Spain, 2020

M.Sc., Construction Management, University of Westminster, UK, 2019

M.Sc., Engineering Geology, Imperial College London, UK, 2011

B.Sc., Geology, University of Oviedo, Spain, 1997

Member of the Executive Committee of the British Geotechnical Association

Member of the Committee of the Ground Engineering Group of the Institute of Materials, Minerals and Mining, UK

Winner of Crossrail Project Technical Paper Competition, 2013

BSc, Geology, University of Oviedo, 1997

MSc, Engineering Geology, Imperial College, UK, 2011

MSc, Construction Management, University of Westminster, UK, 2019

PhD, Geosciences, University of Oviedo, Spain, 2020

Prior Experience

Associate Technical Director, Arcadis, UK, 2019-2021

Managing Consultant, Blackrock, UK, 2017-2019

Principal Tunnel Engineer, OTB, UK, 2011-2017

Director, DST, Spain, 2008-2010

Tunnel Geotechnical Engineer, FCC-COMSA, 2006-2008

Senior Geotechnical Engineer, GOC, Spain, 2002-2006

Graduate Geologist, SEINCO, Spain, 1997-2002

Professional Affiliations

British Geotechnical Association, (BGA)

Geological Society of London, (GSL)

Institute of Materials, Minerals and Mining, (IOM3)

Asociación Española de Túneles y Obras Subterráneas, (AETOS)

Sociedad Española de Mecánica de Suelos e Ingeniería Geológica (SEMSIG)

Colegio Oficial de Geólogos de España, (ICOG)

Publications

Linde-Arias, E., Smith, T and Crossley < M. (2023) Ground conditions and design liability, Construction Law International, Vol 18 No 3, October 2023

Linde-Arias, E., Perri, J and Nwadem, O. (2022) Geotechnical Baseline Reports in the FIDIC Emerald Book – a fair allocation of ground risks?', Construction Law International, Vol. 17, 2, June 2022

Linde-Arias, E., Ares, J. and Hontoria, E. (2022) Desarrollo de un modelo del terreno, investigación geológica y mitigación de riesgos para la excavación con frente abierto de una galería en el proyecto

subterráneo de la línea Elizabeth. Proceedings of the XI Simposio Nacional de Ingeniería Geotécnica, Spain.

Linde-Arias, E., Lemmon, M. and Ares, J. (2019) Development of a ground model, targeted ground investigation and risk mitigation for the excavation of an open face cross passage on the underground Elizabeth Line, London. Tunnelling and Underground Space Technology Volume 86, April 2019, Pages 209-223

Linde-Arias, E., Harris, D. and Ghail, R. (2018) Engineering geology and tunnelling in the Limmo Peninsula, East London. Quarterly Journal of Engineering Geology and Hydrogeology, 51, 23-30, 13.

Tucker, N., Scevity, K., Comins, J. and Linde, E. (2015) Design and construction of Crossrail Stepney Green Sprayed Concrete Lined Cavern in Crossrail Project: Infrastructure design and construction, London. Thomas Telford pp. 385-406.

Linde-Arias, E., Harris, D. and Davis, A (2015) Depressurisation for the excavation of Stepney Green cavern. Proceedings of the IC -Geotechnical Engineering, 168, 3, pp.215-226.

Roberts, T; Linde, E; Vicente, C and Holmes, G. (2015) Multi-aquifer pressure relief in east London. XVI ECSMGE Geotechnical Engineering for Infrastructure and Development. January 2015, 2811-2816.

Presentations

Linde-Arias, E., How to Respond When a Counterparty Lets You Down. Panelist at the African Construction Law Conference, May 2022.

Linde-Arias, E. and Parkin, S. Losses in hydropower tunnels. Presentation for the Joint Power Generation Committee of Lloyds Market Association, London, UK, 2020.

Linde-Arias, E. and Parkin, Sam. Hydro Losses. Invited speaker at Onshore Energy Conference, London, 2019

Linde-Arias, E. Exfiltration in a headrace tunnel in Peru. Invited speaker. Geotechnical Problems Seminar. University of Oviedo, 2017.

Linde-Arias, E. Groundwater control for the excavation of Limmo shafts. Invited speaker at Groundwater Control in Urban Areas seminar. Geological Society of London, 2016.

Linde-Arias, E. Groundwater control for the excavation of launch tunnels in London. Invited speaker at Ground Improvement Seminar. Universidad de Oviedo, Oviedo, 2016.

Linde-Arias, E. Excavation of Stepney Green caverns in London. Invited speaker at Geotechnical Problems of Underground Works Seminar. University of Oviedo, 2016.

Linde-Arias, E. Multi-aquifer pressure relief in east London Presentation at the XVI European Conference on Soil Mechanics and Geotechnical Engineering, Edinburgh 2015.

Linde-Arias, E. Depressurisation of Stepney Green caverns. Invited speaker at the Tunnels in Crossrail Seminar, Imperial College, London, 2015.

Linde-Arias, E. Groundwater control in the Lambeth Group. Invited speaker at the seminar on Groundwater management during underground construction, Geological Society, London, 2014.

Linde-Arias, E. Managin of risks in tunnelling works. Contractual Practices. African Tunnelling Congress, Nigeria, 2023.

Linde-Arias, E., Preparation of GBR for underground works. London Engineering Group of Insurers, UK, 2023.

Project Experience

Investigated exfiltration during the filling of a headrace tunnel in Peru.

Advised the Main Contractor on the repair of waterproofing works in a newly built underground station in London, United Kingdom.

Advised the Main Contractor on construction, geotechnical risks, and commercial strategies for the construction of two twin tunnels for a new motorway excavated by drill and blast through a metamorphic rock mass in North Macedonia.

Responsible for ensuring that the excavation by traditional methods of tunnels for a new underground line in London, United Kingdom were delivered safely and efficiently and in line with design specifications and the Health and Safety documentation.

Responsible for the geotechnical supervision of an urban tunnel in London, United Kingdom for a new underground rail line excavated by boring machines.

Responsible for the geotechnical supervision, preparation of claims for unexpected ground conditions, the quality assurance of several tunnels for a railway excavated by drill and blast through a granitic rock mass.

Performed evaluation for determination of critical path and cause(s) of delay during the design stage of a new tunnel for an underground rail line in the Middle East.