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Education	
2014 - 2019	- Doctor of Philosophy (PhD) , Civil Engineering, Instituto Superior Técnico, classification: Pass with Distinction.
2010 - 2011	- Master of Science (MSc) , Civil Engineering, Instituto Superior Técnico, classification: 18.
2008 - 2010	- Post graduation (Advanced studies degree) , Geotechnical Engineering, Instituto Superior Técnico, classification: 17.
2001 - 2006	- Graduation , Civil Engineering (specialization in Structural Engineering), Instituto Superior Técnico, classification: 17.
Professional Experience	
2019 - ...	- Post Ph.D. scholar at LNEC.
2014 - 2018	- Ph.D. scholar at LNEC.
2011 - 2012	- Lecturer, Instituto Superior Técnico. Lectured "Geotechnical Structures Analysis" of the Civil Engineering Master of Science.
2009 - 2013	- Scientific research scholar at LNEC.
2006 - 2008	- Participation in the design of bridges and special structures at GRID, International Consulting Engineers SA.
2005	- Summer scholar at LNEC, Concrete Dams Department – Structural Analysis of Dams.
Main Research Interests	- Activity in the field of Geomechanics and various forms of its practical application in underground works, namely tunnels, at the Urban and Transportation Geotechnics Unit, Geotechnics Department, LNEC. - Numerical modelling of the behaviour of geomaterials in underground works, including the development and application of constitutive models, in particular the ones which take into account soil liquefaction. - Physical modelling of the behaviour of geomaterials in underground works, including cyclic torsional tests to characterize geomaterials which are prone to liquefaction and tests specifically developed to characterize sand-resin mixtures, as a measure of liquefaction mitigation in immersed tunnel foundations. - It is intended to expand research on these themes, through numerical modelling of immersed tunnels, both during construction and subjected to seismic loading, and through physical modelling at LNEC's seismic table, considering not only the mitigation measures, but also their interaction with the immersed tunnel.

<p>Publications</p>	<p>Graduation final work: “Geometrically nonlinear analysis of a suspended pedestrian bridge”. IST, Lisboa, July of 2006 (in Portuguese).</p> <p>Master thesis: “The influence of geotechnical variability in the subsidence caused by urban tunnel excavation”. IST, Lisboa, November of 2011 (in Portuguese).</p> <p>PhD thesis: “Liquefaction Mitigation Measures: Prospective Application to Immersed Tunnel Foundations”. IST, Lisboa, May of 2019.</p> <p>Scientific Papers:</p> <p>Journal Papers:</p> <ul style="list-style-type: none"> - MIRANDA, Luís, CALDEIRA, Laura, SERRA, João e GOMES, Rui (2020). <i>Dynamic behaviour of Tagus River sand including liquefaction</i>. Bulletin of Earthquake Engineering. Springer Nature. https://doi.org/10.1007/s10518-020-00881-5 - MIRANDA, Luís, CALDEIRA, Laura, SERRA, João e GOMES, Rui (2020). <i>Injection of an expansive resin in Tagus River sand as a liquefaction mitigation measure</i>. Journal of Geotechnical and Geoenvironmental Engineering. ASCE. (under revision) <p>Conference Papers:</p> <ul style="list-style-type: none"> - SERRA, João and MIRANDA, Luís (2010). <i>Numerical evaluation of the ground spatial variability influence on the results of Ménard pressuremeter tests in sands</i>. 12º Congresso Nacional de Geotecnia. Guimarães (in Portuguese). - MIRANDA, Luís and SERRA, João (2010). <i>The influence of ground variability on the settlements caused by tunnel excavation</i>. ENESU 2010. Lisboa (in Portuguese). - MIRANDA, Luís and SERRA, João (2011). <i>The influence of the ground spatial variability on the settlements caused by tunnel excavation</i>. AFTES 2011. Lyon. - SERRA, João and MIRANDA, Luís (2012). <i>Ground uncertainty implications in the application of the observational method to underground works. Comparative examples</i>. ASCE Geo-Institute Geotechnical Special Publication Honoring Fred H. Kulhawy - Foundation Engineering in the Face of Uncertainty. - MIRANDA, Luís, BARBOSA, André, CALDEIRA, Laura and SERRA, João (2017). <i>Parameter Sensitivity Analysis of the Manzari-Dafalias Model for Modelling the Cyclic Response of a Sand</i>. WCEE 2017. Santiago, Chile. - MIRANDA, Luís, CALDEIRA, Laura, SERRA, João and BARBOSA, André (2018). <i>Laboratory Testing and Numerical Modelling of the Dynamic Behaviour of Tagus River Sand</i>. 16º CNG. Ponta Delgada. - MIRANDA, Luís, CALDEIRA, Laura, SERRA, João e BARBOSA, André (2019). <i>Laboratory Testing and Numerical Modelling of the Dynamic Behaviour of Tagus River Sand</i>. 27th European Young Geotechnical Engineers Conference. 26-27 September 2019, Mugla, Turkey. <p>Most relevant reports and Technical Notes (in Portuguese):</p> <ul style="list-style-type: none"> - Report 342/2009. VIEIRA, Ana e MIRANDA, Luís (2009). “Parecer relativo à Rotura de um Muro de Suporte de Gabiões na A21 no Ramo Mafra-Este”. LNEC. - Report 449/2010. MIRANDA, Luís e SERRA, João (2010). “Report on
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the causes of the uplift failure of the Argoncilhe Sewage Treatment Plant biologic reactors and rehabilitation solutions”. LNEC.

- Report 454/2010. MIRANDA, Luís e SERRA, João (2010). “The Ménard pressuremeter test: procedure and interpretation”. LNEC.
- Report 109/2011. MIRANDA, Luís e SERRA, João (2011). “Self-boring pressuremeter tests at Av. Visconde Valmor”. LNEC.
- Report 444/2011. MIRANDA, Luís e SERRA, João (2011). “Report on the safety verification of Charneca I Reservoir”. LNEC.
- Report 155/2012. CALDEIRA, Laura, MIRANDA, Luís e BRITO, Andrea (2012). “Crestuma-Lever Dam. Solution to control the internal erosion”. LNEC.
- Report 197/2012. CALDEIRA, Laura, MIRANDA, Luís e BRITO, Andrea (2012). “Preliminary assessment of the geological and geotechnical conditions and the liquefaction potential of Mitrena Hydrolift site”. LNEC.
- Various Reports 2012/2014. CALDEIRA, Laura, SERRA, João, JEREMIAS, Filipe e MIRANDA, Luís (2012). “Power reinforcement of the harnessing of Salamonde II. Risk management”. LNEC.
- Report 267/2013. CALDEIRA, Laura, JEREMIAS, Filipe, RAMOS, Rute, SERRA, João e MIRANDA, Luís (2013). “Avaliação das Condições Geotécnicas do Local de Implantação do Hydrolift da Mitrena”. LNEC.
- Report 456/2013. CALDEIRA, Laura, MIRANDA, Luís (2012). “Crestuma-Lever Dam. Follow-up of the works of implementation of the solution to guarantee the stability of the stilling basins and downstream rock fill apron”. LNEC.
- Report 69/2014. CALDEIRA, Laura, JEREMIAS, Filipe, RAMOS, Rute e MIRANDA, Luís (2014). “Avaliação das Condições Geotécnicas do Local de Implantação do Hydrolift da Mitrena”. LNEC.
- Report 218/2014. CALDEIRA, Laura e MIRANDA, Luís (2014). “Propostas de intervenção com vista à avaliação e ao aumento das condições de segurança da Bacia 7E após a deteção de fluxo ascendente de água sob bloco de betão”. LNEC.
- Report 400/2014. CALDEIRA, Laura, SERRA, João, JEREMIAS, Filipe e MIRANDA, Luís (2014) “Avaliação das condições de segurança e plano de observação do Hydrolift na Mitrena”. LNEC.
- Report 63/2015. CALDEIRA, Laura, RAMOS, Rute e MIRANDA, Luís (2015). “Aproveitamento de Crestuma-Lever. Solução para o controlo de erosão interna. Análise dos Resultados dos Trabalhos de Prospeção e de Inspeção realizados na Bacia 7E”. LNEC.
- Report 152/2016. CALDEIRA, Laura, MIRANDA, Luís e CARRETO, Joana (2016). “Aproveitamento de Crestuma-Lever. Contribuições para as Especificações Técnicas da Solução a Implementar na Bacia 7E”. LNEC.
- Report 142/2017. CALDEIRA, Laura, CARRETO, Joana e MIRANDA, Luís (2017). “Aproveitamento de Crestuma-Lever. Implementação da solução de impermeabilização a montante e de reforço das fundações da Bacia 7E”. LNEC.
- Report 200/2020. CALDEIRA, Laura, MIRANDA, Luís, SERRA, João, JEREMIAS, Filipe e LAMAS, Luís (2020). “Plano de Drenagem de Lisboa. Assessoria técnica na apreciação técnica das propostas do concurso público internacional dos Túneis Monsanto – Santa Apolónia e Chelas – Beato”. LNEC.
- Report 207/2020. CALDEIRA, Laura, CARRETO, Joana, MIRANDA, Luís e JEREMIAS, Filipe (2020). “Prolongamento das Linhas Amarela e Verde (Rato - Cais do Sodré). Apreciação das propostas do Lote 1”.

	LNEC.
Awards	<ul style="list-style-type: none"> - Merit diploma corresponding to the academic year 2002/2003. - Merit diploma corresponding to the academic year 2003/2004. - Professor Alberto Abecassis Manzanares Award - academic year 2005/2006. - Merit diploma corresponding to the academic year 2010/2011. - Caixa Geral de Depósitos Award, corresponding to the Master of Science (MSc), Civil Engineering, 2011. - Young Geotechnical Award in English 2018.
Other Technical and Scientific Activities	<p>Design of bridges and special structures:</p> <ul style="list-style-type: none"> - Final design of the civil engineering structures of the expressway connection to the Funchal harbour. - Preliminary study of two composite bridges of the Antwerpen Masterplan (B03 and B05). - Final design review of the access viaduct to the bridge over Zambeze river. - Tender for a suspension pedestrian bridge in Kraljevo, Serbia. - Preliminary study for tender of the Third Tagus Crossing. - Preliminary design of a viaduct between kms 0+225 e 0+660 of EN242 - Nazaré deviation road. - Preliminary study for tender of the high speed railway connection (TGV) Poceirão - Caia. <p>Organization of scientific events:</p> <ul style="list-style-type: none"> - Participation in the Organizing Committee of the 2nd CPT Course: Tunnels and underground works in urban areas, held at LNEC on the 4th and 5th of March, 2010. - Participation in the Organizing Committee of the National Conference on Underground Space and its Use, held at LNEC on the 18th and 19th of November, 2010. - Participation in the Organizing Committee of the <i>workshop</i> "New Structural Solutions in Underground Works", held at LNEC on the 21st of May, 2015. - Participation in the preparation of the CPT 4th Seminar, held at LNEC on the 4th and 5th of February, 2016. - Participation in the preparation of the Tunnel Book in Portugal. - Participation in the Organizing Committee of the "5th International Seminar On Underground Space", held at October 18th, 2019. - Participation in the Organizing Committee of the "1st International Conference On Sustainability In Geotechnical Engineering", which will be held between the 27th and the 30th of June, 2021. <p>Participation in courses and other scientific events:</p> <ul style="list-style-type: none"> - Training Course in Ethics and Professional Deontology. January 13 and 20, 2007. Portuguese Chamber of Engineers. - Fundec Course: <i>Steel and composite bridges</i>. May 2-4, 2007. IST. - Seminar: <i>The Special Structure "Tunnel". Conception, Analysis and Construction</i>. October 16, 2008. Portuguese Chamber of Engineers. - Meeting of Open Software in Public Administration. January 28, 2009. LNEC. - Fundec Course: <i>Observation in Geotechnics</i>. May 19-21, 2009. IST. - Workshop: <i>Tunnels for High-Speed Railways</i>. October 1-2, 2009. FEUP. - Seminar: <i>Geotechnical aspects of the design, construction, operation and risk analysis of underground works</i>. December 10-11, 2009. LNEC. - 2nd CPT Course: <i>Tunnels and underground works in urban areas</i>.

	<p>March 4-5, 2010. LNEC.</p> <ul style="list-style-type: none"> - MATLAB Training Course: Basics. April to May 2010. LNEC. - Course: <i>Tutorial of Parallel Programming</i>. April 12-16, 2010. LNEC. - 12th National Congress of Geotechnics: <i>Geotechnics and Sustainable Development</i>. April 26 to 29, 2010. Universidade do Minho. - <i>Portuguese Conference on the Use of the Underground Space</i>. November 18-19, 2010. LNEC. - 6th <i>International Conference on Dam Engineering</i>. February 15-17, 2011. LNEC. - Course: <i>Risk management in embankment dams. Geotechnical component</i>. February 14, 2011. LNEC. - <i>AFTES International Congress of Lyon</i>. October 17-19, 2011. Lyon. - I Lecture Series: <i>Technology in Construction</i>. November 8, 2011. LNEC. - LNEC Research and Innovation Days. March 21-26, 2012. LNEC. - XIII National Congress of Geotechnics / VII Luso-Brazilian Congress of Geotechnics. April 16-20, 2012. LNEC/IST. - 15th <i>World Conference on Earthquake Engineering</i>. September 24-28, 2012. Lisbon Conference Centre. - LNEC Research and Innovation Days. November 5-7, 2012. LNEC. - Course: <i>Computational Modelling in MATLAB. Fundamentals to Applications</i>. May 7 to June 6, 2013. LNEC. - Workshop: <i>OpenSees Day Portugal</i>. July 3-4, 2014. FEUP. - Workshop: <i>New Structural Solutions in Underground Works</i>. May 21, 2015. LNEC. - 4th <i>CPT International Seminar</i>. February 4-5, 2016. LNEC. - <i>WCEE 2017 (16th World Conference on Earthquake Engineering)</i>. January 9-13, 2017. Santiago, Chile. - 1st <i>Seminar on Geotechnics in Transportation</i>. October 12-13, 2017. LNEC.
Languages	- Certificate in Advanced English, B, University of Cambridge.
Professional affiliations and technical commissions	<ul style="list-style-type: none"> - Member of the <i>Portuguese Engineers Association (OE)</i>. - Member of the <i>Portuguese Geotechnical Society (SPG)</i> and of the <i>Portuguese Tunnel Commission (CPT)</i>. - Member of the <i>International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE)</i>. - Member of the <i>International Tunnelling Association (ITA)</i>.