

PERSONAL INFORMATION

Name | **Armando de Lillis**

EDUCATION

2016 | PhD in Geotechnical Engineering, excellent
Dept. of Structural and Geotechnical Engineering, Sapienza University of Rome

2012 | MS in Environmental Engineering, 110/110 cum laude
2010-2011 Excellence Course
Sapienza University of Rome

2009 | BS in Environmental Engineering, 110/110 cum laude
Sapienza University of Rome

2006 | High school scientific diploma, 100/100
Liceo Virgilio, Rome

RESEARCH EXPERIENCE

2016 - today | Post-doctoral research fellowship
Study of the mechanized excavation of tunnels in fine-grained soils
Dept. of Structural and Geotechnical Engineering, Sapienza University of Rome

2014 (Dec) | Study of large-strain consolidation processes
Centro Reatino di Ricerche di Ingegneria per la Tutela e la Valorizzazione dell'Ambiente e del Territorio (CRITEVAT), Sapienza University of Rome

2013 | Physical and mechanical characterization of the dredged soils in the containment facility of the port of Gaeta
Dept. of Structural and Geotechnical Engineering, Sapienza University of Rome

AWARDS

2019 | Delegate of the Italian Geotechnical Association at the 27th European Young Geotechnical Engineers Conference (EYGEC)

2010 - 2011 | Excellence Course in Environmental Engineering
Sapienza University of Rome

PUBLICATIONS

Postponed conferences | De Gori, V., de Lillis, A., Miliziano, S. 2020. Influence of the geometrical design of TBMs on deep tunnels lining loading. In *10th International Symposium on Geotechnical Aspects of Underground Construction in Soft Ground*, Cambridge. Accepted paper.

De Gori, V. de Lillis, A., Miliziano, S. 2020. Numerical evaluation of the influence of the TBM geometry on the ground pressure acting on the shield. *ITA-AITES World Tunnel Congress*, Kuala Lumpur. Accepted paper.

- Rotisciani, G.M., Natu, E., de Lillis, A., Sebastiani, D., Miliziano, S. 2020. Calibration of an advanced constitutive model through direct shear test results. In *16th International Conference of the International Association for Computer Methods and Advances in Geomechanics*, Turin, Italy. Accepted paper.
- Miliziano, S., de Lillis, A. 2020. Geotechnical design of containment facilities for fine-grained dredged soils (in Italian). *XXVII Convegno Nazionale di Geotecnica*, Reggio Calabria, Italy. Invited paper.
- Sebastiani, D., de Lillis, A., Di Giulio, A., Miliziano, S. 2020. Short- and long-term effects of soil conditioning for the sustainable reuse of epb-tbm tunnelling debris (in Italian). *XXVII Convegno Nazionale di Geotecnica*, Reggio Calabria, Italy. Accepted paper.
- 2020 de Lillis, A., Rotisciani, G.M., Miliziano, S. 2020. Numerical investigation of the behaviour of hydraulically dredged fine-grained soils during and after filling of the containment facility of the port of Gaeta. *Geotextiles and Geomembranes*, 48 (4), 591-601. DOI: 10.1016/j.geotexmem.2020.03.005
- de Lillis, A., Rotisciani, G.M., Miliziano, S. 2020. Time evolution of dredged mud in a containment facility: a comparison between monitoring data and numerical predictions. In: Calvetti F., Cotecchia F., Galli A., Jommi C. (eds) *Geotechnical Research for Land Protection and Development*. CNRIG 2019. Lecture Notes in Civil Engineering, vol 40. Springer, Cham.
- Miliziano, S., Caponi, S., Carlaccini, D., de Lillis, A. 2020. Design of an underground railway station beneath a historic building in Rome and class A predictions of the induced effects. *Gallerie e Grandi Opere Sotterranee*, 132, 9-26.
- Sebastiani, D., de Lillis, A., Di Giulio, A., Miliziano, S. 2020. Effects of thickeners polymers used in tunnelling on the physical and mechanical properties of fine-grained soils. In: Calvetti F., Cotecchia F., Galli A., Jommi C. (eds) *Geotechnical Research for Land Protection and Development*. CNRIG 2019. Lecture Notes in Civil Engineering, vol 40. Springer, Cham.
- 2019 Miliziano, S, de Lillis, A. 2019. Predicted and observed settlements induced by the mechanized tunnel excavation of metro line C near S. Giovanni station in Rome. *Tunnelling and Underground Space Technology*, 86, 236-246.
- De Gori, V., de Lillis, A. Miliziano, S. 2019. Lining stresses in a TBM-driven tunnel: a comparison between numerical results and monitoring data. *ITA-AITES World Tunnel Congress*, pp. 3634-3643, Naples, Italy (oral presentation).
- de Lillis, A., Rotisciani, G.M. 2019, Miliziano, S. Numerical modelling of consolidation processes of fine-grained dredged sediments: the containment facility of port of Gaeta. *27th European Young Geotechnical Engineers Conference*, pp. 131-136, Bodrum, Turkey (oral presentation).
- de Lillis, A., Rotisciani, G.M., Miliziano, S. 2019. Numerical study of the mechanical behaviour of fine-grained dredged sediments. *XVII European Conference on Soil Mechanics and Geotechnical Engineering*, Reykjavik, Iceland (oral presentation).
- 2018 de Lillis, A., De Gori, V., Miliziano, S. 2018. Numerical modelling strategy to accurately assess lining stresses in mechanized tunneling. *9th European Conference on Numerical Methods in Geotechnical Engineering*, pp. 1295-1302, Porto, Portugal (oral presentation).

- De Gori, V., Miliziano, S, de Lillis, A. 2018. Crack formation and damage evolution during consolidation in TBM driven tunnel linings in fine-grained soils. *ITA-AITES World Tunnel Congress*, pp. 1345-1358, Dubai.
- de Lillis, A., Rotisciani, G.M., Miliziano, S. 2018. Modellazione numerica dello spessore dei fanghi di colmata nella vasca di Gaeta (in Italian). *Incontro Annuale dei Ricercatori di Geotecnica*, Genoa, Italy (oral presentation).
- 2017 de Lillis, A., Miliziano, S., Flora, A., Fasano, G. 2017. Reclamation of a containment area: measurements and back analysis of the height of dredged mud. *19th International Conference on Soil Mechanics and Geotechnical Engineering*, pp. 2965-2968, Seoul (invited presentation).
- Fasano, G., Flora, A., de Lillis, A., Miliziano, S. 2017. Misure e back-analysis delle altezze dei fanghi di dragaggio nella cassa di colmata del porto di Gaeta (in Italian). *XXVI Convegno Nazionale di Geotecnica*, Rome, Italy.
- de Lillis, A., Miliziano, S. 2017. Impiego di un modello costitutivo avanzato per lo studio dell'interazione terreno-rivestimento per gallerie scavate in TBM (in Italian). *Incontro Annuale dei Ricercatori di Geotecnica*, Matera, Italy (oral presentation).
- de Lillis, A. 2017. Implementazione e utilizzo di un modello costitutivo avanzato per argille nella risoluzione di problemi al finito: studio del comportamento di gallerie realizzate mediante scavo meccanizzato (in Italian). PhD Thesis.
- 2016 de Lillis, A., Miliziano, S. 2016. Geotechnical aspects of the design of the containment area of the port of Gaeta (in Italian). *Rivista Italiana di Geotecnica*, 50(4), 3-22.
- Miliziano, S., de Lillis, A., Sebastiani, D. 2016. An integrated approach to the management of soils and rocks from excavations for a proper use of the territory and for landslides prevention (in Italian). *Geingegneria Ambientale e Mineraria*, 148(2), 53-60.
- 2014 de Lillis, A., Miliziano, S. 2014. Un'applicazione atipica del vacuum consolidation per il rapido consolidamento di terreni argillosi nella vasca di colmata di Gaeta (in Italian). *Incontro Annuale dei Ricercatori di Geotecnica*, Chieti, Italy (oral presentation).

INVITED PRESENTATIONS

- 2019 De Gori, V., de Lillis, A. Miliziano, S. 2019. Lining stresses in a TBM-driven tunnel: a comparison between numerical results and monitoring data. *ITA-AITES World Tunnel Congress*, pp. 3634-3643, Naples, Italy.
- de Lillis, A., Rotisciani, G.M. 2019, Miliziano, S. Numerical modelling of consolidation processes of fine-grained dredged sediments: the containment facility of port of Gaeta. *27th European Young Geotechnical Engineers Conference*, Bodrum, Turkey.
- de Lillis, A., Rotisciani, G.M., Miliziano, S. 2019. Numerical study of the mechanical behaviour of fine-grained dredged sediments. *XVII European Conference on Soil Mechanics and Geotechnical Engineering*, Reykjavik, Iceland.
- 2018 de Lillis, A., De Gori, V., Miliziano, S. 2018. Numerical modelling strategy to accurately assess lining stresses in mechanized tunneling. *9th European Conference on*

Numerical Methods in Geotechnical Engineering, pp. 1295-1302, Porto, Portugal.

de Lillis, A., Rotisciani, G.M., Miliziano, S. 2018. Modellazione numerica dello spessore dei fanghi di colmata nella vasca di Gaeta. *Incontro Annuale dei Ricercatori di Geotecnica*, Genoa, Italy.

2017 de Lillis, A., Miliziano, S. 2017. Impiego di un modello costitutivo avanzato per lo studio dell'interazione terreno-rivestimento per gallerie scavate in TBM. *Incontro Annuale dei Ricercatori di Geotecnica*, Matera, Italy.

2014 de Lillis, A., Miliziano, S. 2014. Un'applicazione atipica del vacuum consolidation per il rapido consolidamento di terreni argillosi nella vasca di colmata di Gaeta. *Incontro Annuale dei Ricercatori di Geotecnica*, Chieti, Italy (oral presentation).

INVITED SEMINARS

10/11/2017 Geotechnical design criteria of containment facilities for fine-grained dredged sediments
Geotechnical and environmental aspects of the management of dredged sediments
Ecomondo, The Green Technology Expo

11/03/2016 Geotechnical design of the containment facility of the port of Gaeta
Cycle of Seminars about ground improvement
Università di Cassino e del Lazio meridionale, Master in Geotechnical Design

30/05/2014 Geotechnical aspects of the management of dredged sediments in containment facilities
Workshop on the new projects for the ports of Civitavecchia, Fiumicino and Gaeta
Autorità portuale di Civitavecchia, Fiumicino e Gaeta, Master in Geotechnical Design

REVIEWER EXPERIENCE

2019 - today Reviewer for Arabian Journal of Geosciences

2018 - today Reviewer for Tunnelling and Underground Space Technology

TEACHING SUPPORT EXPERIENCE

2018 - today Foundations and Retaining Structures, Prof. E. Fontanella
Sapienza University of Rome

2018 - today Geotechnics, Dr. G.M. Rotisciani
Sapienza University of Rome

2015 - today Geotechnical Modelling (Master in Geotechnical Design)
Sapienza University of Rome

2015 - today Fundamentals of Geotechnics, Prof. S. Miliziano
Sapienza University of Rome

2013 - today Advanced Soil Mechanics, Prof. S. Miliziano
Sapienza University of Rome

2014 Environmental Geotechnics, Prof. S. Miliziano
Sapienza University of Rome

CO-TUTOR OF MSc AND BSc THESIS

2020	<p>G. Grossi. Approcci numerici per la valutazione della resistenza laterale di pali trivellati in terreni sabbiosi. MSc, Sapienza University of Rome.</p> <p>L. Giaccio. Studio dei metodi per la stima di cedimenti in grandi deformazioni e sviluppo di una procedura semplificata. BSc, Sapienza University of Rome.</p> <p>R. Fratini. Modellazione numerica del comportamento di sedimenti di dragaggio: influenza dei parametri costitutivi e della velocità di essiccazione. BSc, Sapienza University of Rome.</p> <p>E. Natu. Valutazione della resistenza laterale di pali in terreni sabbiosi: determinazione sperimentale dello spessore della banda di taglio e modellazione numerica del problema al finito. MSc, Sapienza University of Rome.</p>
2019	<p>F. Fusco. Analysis of operational and conditioning parameters monitored during the excavation of a metro line by TBM-EPB (in italian). BSc, Sapienza University of Rome.</p> <p>C. Chierichini. Influence of rainfall on slopes stability (in italian). BSc, Sapienza University of Rome.</p>
2018	<p>G. Cipriani. Study of the behaviour of dredged sediments placed in containment facilities (in Italian). BSc, Sapienza University of Rome.</p> <p>J. Santacroce. Geotechnical aspects of the design of containment facilities for dredged soils (in Italian). BSc, Sapienza University of Rome.</p> <p>L. Batocchioni. Experimental study of the influence of sandy soils morphology on the creep behaviour (in Italian). BSc, Sapienza University of Rome.</p> <p>E. Giordani. Experimental study of the creep behaviour of fine-grained soils in residual conditions (in Italian). BSc, Sapienza University of Rome.</p>
2016	<p>V. De Gori. 2D and 3D numerical modelling of mechanized tunnel excavation in fine-grained soils (in Italian). MSc, Sapienza University of Rome.</p>
2015	<p>G. Abati. Stress redistribution and displacements induced by tunnelling: study of the influence of the soil geo-mechanical properties (in Italian). BSc, Sapienza University of Rome.</p>
2014	<p>I. Bevilacqua. Numerical modelling of mechanized tunnelling in clayey soils (in Italian). MSc, Sapienza University of Rome.</p> <p>M.C. Odorisio. Prediction, measurements and back-analyses of the subsidence trough induced by the excavation of Rome metro line C near Carducci School (in Italian). MSc, Sapienza University of Rome.</p>

PROFESSIONAL ACTIVITY

2019	<p>Collaboration to the design of the works for the modernization of SS16 – Barcaglione and Orciani tunnels.</p>
2018	<p>Technical assistance for the excavation of the hydraulic tunnel Basento-Bradano. Elaboration and interpretation of monitoring data (convergences, piezometer, strain</p>

2016	gauges, pressure cells) Technical assistance for the excavation of the hydraulic tunnel Basento-Bradano. Elaboration and interpretation of monitoring data (convergences, piezometer, strain gauges, pressure cells)
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AFFILIATIONS

2018 - today	International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE) Italian Geotechnical Society (Associazione Geotecnica Italiana, AGI) Italian Tunnelling Society (Società Italiana Gallerie, SIG)
2014 - today	Licensed professional engineer

ADDITIONAL INFORMATION

Mother tongue	Italian
Other languages	English – professional (TOEFL Certificate 2011) Spanish – basic
Hobbies	Literature, cinema, yoga and basketball.

I authorize the use of my personal data in compliance with Italian Legislative Decree 196/03.

Rome, 23/11/2020

Armando de Lillis