PERSONAL INFORMATION

Arianna Lupattelli

STUDIES APPLIED FOR

Civil and Environmental Engineering | Geotechnical Engineering

EDUCATION AND TRAINING

November 2020 – November 2023

PhD Candidate | International Doctoral Program in Civil and Environmental Engineering – Cycle XXXVI

Department of Civil and Environmental Engineering – Università degli Studi di Perugia, Via Goffredo Duranti 93, Perugia, 06125, Italy

http://www.ing1.unipg.it/

Topic of research: Insights on the Thermo-Mechanical Behavior of Energy Geostructures from Laboratory-Scale Samples to Urban-Scale Installations Experimental, Numerical and Analytical Frameworks"

May 2023 – June 2023

Research Activity | PhD Program

Northwestern University, Department of Civil and Environmental Engineering, Tech A120, 2145 Sheridan Road, Evanston, 60208, Illinois (United States)

https://www.northwestern.edu

Topic of research: Thermo-Mechanical behaviour of Energy Geostructures: Analytical modelling for Energy Tunnels

April 2022 – July 2022

Research Activity | PhD Program

Instituto Superior Tecnico ULISBOA, Departamento de Engenharia Civil, Arquitetura e Georrecursos, Av. Rovisco Pais, Lisboa, 1049-001, Portugal

https://fenix.tecnico.ulisboa.pt/departamentos/decivil

Topic of research: Thermo-Mechanical Behaviour of Energy Geostructures: Numerical modelling of Energy Micropiles

May 2020 – August 2020

Scholarship | Applied research in activities aimed at assessing the safety of "mixed" dams in concrete and loose materials

Department of Civil and Environmental Engineering – Università degli Studi di Perugia, Via Goffredo Duranti 93, Perugia, 06125 (PG), Italy

http://www.ing1.unipg.it/

- Seismic evaluation of a mixed dam in concrete and loose materials
- Numerical simulation with finite element software of the case study
- Drafting of reports

September 2014 – January 2020

Master's Degree | Building Engineering and Architecture vote 110/110

Department of Civil and Environmental Engineering – Università degli Studi di Perugia, Via Goffredo Duranti 93, Perugia, 06125 (PG), Italy

http://www.ing1.unipg.it/

- Engineering subjects such as geotechnics, construction techniques and technologies
- Skills in architectural composition and design

October 2019 – January 2020 **Mobility | Erasmus +**

Instituto Superior Tecnico ULISBOA, Departamento de Engenharia Civil, Arquitetura e Georrecursos, Av. Rovisco Pais, Lisboa, 1049-001, Portugal

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- Investigation of the behaviour of Energy Geostructures from a numerical standpoint
- Development of testing protocols for a planned small scale testing programme examining thermally-activated piles

WORK EXPERIENCE

May 2020 – November 2021 **Trainee | Structural Engineer**

"Gamma Studio", Via Puglie 15, Bastia Umbra, 06083 (PG), Italy

- Architectural and structural design
- Architectural survey activities

PERSONAL SKILLS

Mother tongue(s) Italian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C1	C1	C1	B2

Language Certificate – Level C1 – iTEP

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user
Common European Framework of Reference for Languages

Communication skills

- Effective co-operator and able to contribute to group projects (during many group exams in the university environment)
- Ability to public speaking in a structured and secure manner (on public illustrations about design documents for some university exams)

Organisational / managerial skills

- Ability to work in multitasking and dynamic environments (in the university context)
- Ability to work effectively both independently and in a team (in different project subjects that involved group work but also singular work)
- Target and results oriented

Computer skills
- High level of the Microsoft Officepackage (Microsoft Word, Excel, PowerPoint)
- High level in Autocad and SketchUp (Architectural Composition, Architectural Survey, Technical Architecture, Construction Technique Laboratory)
- High level in the Adobe Package consisting of Photoshop, Illustrator, InDesign (Urban Planning, Architectural Composition, Architectural Restoration, Technical Architecture, Representation Technique)
- Good command of SAP2000 (Construction Science and Technology Laboratories)
- High level of the Latex typesetting program (Research Paper Drafting)
- High level of Abaqus/CAE 6.14 (Geotechnical Research)
- High level of Grapher 7(Geotechnical Research)
- High level of Geoslope 2012 (Geotechnical Research)
- High level of Plaxis 2D (Geotechnical Research)
- High level of Rexel Reluis (Seismic Analyses)
- High level of Comsol Multyphysics (Geotechnical Research)

Other skills
- Attention to the respect of the rules, ability to manage sudden situations and make instant decisions in the face of pressing public contexts (sports context as a National Volleyball Referee)

Driving licence
- B

ADDITIONAL INFORMATION

Activities
- Member of the European Project COST - CA21156 european network for FOstering Large-scale ImplementAtion of energy GEostructure (FOLIAGE)
- FABRE consortium: viaduct inspection activities (Unipg) with geotechnical and hydraulic consultancy
- Civic tower of Città di Castello (Perugia): acquisition and processing of data deriving from the installed monitoring system
- Applied research in areas related to the prevention of hydrogeological risk in the municipality of Deruta
- Reconnaissance and verification activities necessary to assess the overall situation of the infrastructure works to be carried out in contradiction: Highways A10 and A12 (Italy)
- Tutoring activities for Geotechnics teaching (LM-4) hours 100

Publications

- Lupattelli A., Salciarini D., Cecinato F., Veveakis M., Bodas Freitas T.M., Bourne-Webb P.J. (2024) "Temperature dependence of soil-structure interface behaviour in the context of thermally-activated piles: A review", Geomechanics for Energy and the Environment 37: 100521, https://doi.org/10.1016/j.gete.2023.100521
- Lupattelli A., Bourne-Webb P.J., Bodas Freitas T.M., Salciarini D. (2023) "A numerical study of the behaviour of micropile foundations under cyclic thermal loading", Applied Sciences 13: 9791, DOI https://doi.org/10.3390/app13179791
- Lupattelli A., Cernuto E., Brunelli B., Cattoni E., Salciarini D. (2023) "Experimentation of the thermo-mechanical behavior of the soil-concrete interface", In: Geotechnical Engineering in the Digital and Technological Innovation Era: Springer Series in Geomechanics and Geoengineering; Ferrari, A., Rosone, M., Ziccarelli, M., Gottardi, G., Eds.; Springer, Cham: 2023
- Gerola M., Lupattelli A., Cecinato F., Salciarini D., Arola T. (2023) " Numerical analysis of the behaviour of energy micropiles used for heat storage: a case study in Turku (Finland)", In: Geotechnical Engineering in the Digital and Technological Innovation Era: Springer Series in Geomechanics and Geoengineering; Ferrari, A., Rosone, M., Ziccarelli, M., Gottardi, G., Eds.; Springer, Cham: 2023
- Cernuto E., Settembre S., Lupattelli A., Cattoni E., Volpe E., Salciarini D. (2023). Environmentally sustainable solutions for slope consolidation in the Deruta historic center. In: Geotechnical Engineering in the Digital and Technological Innovation Era: Springer Series in Geomechanics and Geoengineering; Ferrari, A., Rosone, M., Ziccarelli, M., Gottardi, G., Eds.; Springer, Cham: 2023
- Lupattelli A., Kita A., Salciarini D., Venanzi I., Ubertini F. (2023) "Effects of the soil–structure interaction and seismic vertical component on the response of a concrete surge tank", Structures, DOI https://doi.org/10.1016/j.istruc.2023.05.127
- Salciarini D., Lupattelli A., Cecinato F., Cattoni E., Volpe E. (2022) "Static and seismic numerical analysis of a shallow landslide located in a vulnerable area", Italian Geotechnical Journal 2, pp. 5-23, DOI dx.doi.org/10.19199/2022.2.0557-1405.005
- Bourne-Webb P., Lupattelli A., Bodas Freitas T.M., Salciarini D. (2022) "Seasonally, thermally-activated pile foundations in granular media", Geomechanics for Energy and the Environment, DOI https://doi.org/10.1016/j.gete.2021.100299
- Cernuto E., Pauselli D., Lupattelli A., Salciarini D., Cattoni E. (2022) "Modellazione numerica del comportamiento sismico di paratie", In: 11° Incontro Annuale dei Giovani Ingegneri Geotecnici (IAGIG), 11 July, Reggio Calabria (Italy)
- Rafai M., Lupattelli A., Salciarini D. (2022) "Finite element modelling of Energy Piles using different constitutive models for the soil", 11° Incontro Annuale dei Giovani Ingegneri Geotecnici (IAGIG), In: 11 July, Reggio Calabria (Italy)
- Bourne-Webb P., Bodas Freitas T.M., Zito M., Lupattelli A., Sterpi D., Salciarini D. (2022) "Outstanding issues in understanding then behaviour of thermally-activated pile foundations", In: International Conference on Deep Foundations and Ground Improvement, 18-20 May, Berlin (Germany)
- Settembre S., Salciarini D., Lupattelli A., Cernuto E. (2022). Quantificazione degli effetti idro-meccanici prodotti da interventi di ingegneria naturalistica e applicazione ad un caso di studio nel centro storico di Deruta. In: XXII Congresso Nazionale CIRIAF: Sviluppo Sostenibile, Tutela dell'Ambiente e della Salute Umana - Atti, Perugia (Italy), 7-8 April 2022, Università degli Studi di Perugia. E-Book-Open Access, Morlacchi Editore University Press ISBN 978-88-9392-375-0
- Kita A., Lupattelli A., Venanzi I., Salciarini D., Ubertini F. (2021) "The role of seismic hazard modeling on the simplified structural assessment of an existing concrete gravity dam", Structures, DOI https://doi.org/10.1016/j.istruc.2021.10.037
- Lupattelli A., Bourne-Webb P., Bodas Freitas M.T., Salciarini D. (2021) "Analisi numerica di fondazioni su pali termicamente attivi", In: 10° Incontro Annuale dei Giovani Ingegneri Geotecnici (IAGIG), 3-4 September, Pisa (Italy)
- Lupattelli A., Salciarini D, Cecinato F., Bodas Freitas T.M., Bourne-Webb P.J. (2023) "Temperature dependence of soil-structure interface behaviour in the context of thermally-activated piles: A review", Geomechanics for Energy and the Environment, Under Review

Presentations
- "3D FE modeling of a real-world energy piled foundation", Symposium on Energy Geotechnics 23, 3-5 October 2023, Delft (Netherlands)
- "Experimentation of the thermo-mechanical behavior of the soil-concrete interface", CNRIG, 5-7 July 2023, Palermo (Italy)
- "Thermally-controlled direct shear tests at the soil-concrete interface", EGU General Assembly, 23-28 April, Wien (Austria), Online
- "Finite element modelling of Energy Piles using different constitutive models for the soil", 11° IAGIG, 11 July 2022, Reggio Calabria (Italy)
- "Prove di taglio diretto con controllo di temperatura: primi risultati su campioni di terreno ricostituiti", IARG, October 2021, Online
- "Analisi numerica di fondazioni su pali termicamente attivi", 10° IAGIG, 9-11 September 2021, Pisa (Italy)

Conferences
- Symposium on Energy Geotechnics 23, 3-5 October 2023, Delft (Netherlands)
- CNRIG Convegno Nazionale dei Ricercatori di Ingegneria Geotecnica, 5-7 2023 July, Palermo (Italy)
- EGU General Assembly, 23-28 April 2023, Wien (Austria), Online
- XXVII Convegno Nazionale di Geotecnica, 13-15 July 2022, Reggio Calabria (Italy)
- 11° IAGIG Incontro Annuale dei Giovani Ingegneri Geotecnici, 11 July, Reggio Calabria (Italy)
- International Conference on Deep Foundations and Ground Improvement, 18-20 May, Berlin (Germany)
- The First Mediterranean Symposium on Landslides, 9 August 2021, Online
- 1° Convegno Fabre: Ponti, Viadotti e Gallerie esistenti, ricerca, innovazione e applicazioni, 2-4 February 2022, Lucca (Italy)
- IARG Incontro Annuale dei Ricercatori di Geotecnica, October 2021, Online
- 10° IAGIG Incontro Annuale dei Giovani Ingegneri Geotecnici, 3-4 September, Pisa (Italy)

Attended Courses
- UniPG: Cycling – City scale implementation of Energy Geostructures, 21-25 March 2022, Perugia (Italy)
- DICEA UniNA: Med PhD School, 11-16 October 2021, Online
- GNIG: Scuola di Dottorato Invernale 2021: Comportamento idromeccanico delle argille naturali e compattate alla scala micro e macro: analisi sperimentale e modellazione numerica, 01-03 March 2021, Online
- PoliTO-PoliMi: Energy Geostructures and Geosystems, February-March-April 2021, Online