Curriculum Vitae

Davide Noè Gorini

- **CURRENT POSITION**

2019 to date Postdoctoral researcher
Department of Structural and Geotechnical Engineering, Sapienza University of Rome, Italy

- **EDUCATION**

2019, Feb 26 PhD, overall grade: *Excellent cum laude*
Thesis: *Soil-structure interaction for bridge abutments: two complementary macro-elements*
Department of Structural and Geotechnical Engineering, Sapienza University of Rome, Italy
Supervisor: Prof. Luigi Callisto, Sapienza University of Rome
Advisor: Prof. Andrew John Whittle, Massachusetts Institute of Technology

2015, Jan 28 Master, overall grade: 110/110 *cum laude* (weighted average: 30.0/30)
Thesis: *Dynamic soil-structure interaction for suspension bridges foundations*
Supervisor: Prof. Luigi Callisto, Sapienza University of Rome, Italy

2011, Dec 20 Bacherol, overall grade: 110/110 (weighted average: 27.7/30)
Faculty of Civil and Industrial Engineering, Sapienza University of Rome, Italy

- **FELLOWSHIPS**

2018 Scholarship as visiting PhD student (February to May, 2018)
Department of Civil and Environmental Engineering, Massachusetts Institute of Technology (MIT), Massachusetts (USA)

- **AWARDS**

2022 Participation award to the *NHERI Computational Modeling and Simulation Center Symposium*
Presentation of the contribution *Thinking about seismic-resistant soil-structure systems: from advanced numerical modelling to design methodologies* (Gorini, D. N.)
Dates: 3-4 November 2022
Budget: $ 2200, released by National Science Foundation (United States)

2016 Fourth national prize for the best Master's Degree thesis in memory of Salvatore Fazio
Released by University of Catania, Italy

2015 Excellent Graduate in the academic year 2014/2015
Release by Sapienza University of Rome, Italy

- **SUPERVISION OF GRADUATE AND UNDERGRADUATE STUDENTS**

Ph.D.

2022 to date Giulio Proietti
Optimising the seismic performance of passive energy dissipation devices
Sapienza University of Rome
Supervisor: Prof. Nicola Nisticò, Advisor: **Davide Noè Gorini**

2022 Yufeng Tang
Influence of the approaching slab on the bridge performance
College of Civil Engineering, University of Fuzhou, China; Department of Architecture, University of Roma 3, Italy
Supervisors: Prof. Bruno Briseghella, Prof. Junqing Xue, Prof. Camillo Nuti; Advisors: Prof. Luigi Callisto, **Davide Noè Gorini**

2021 to date Giuseppe Lombardi
A hyperplastic macroelement with hydro-mechanical coupling for shallow foundations
Department of Structural and Geotechnical Engineering, Sapienza University of Rome, Italy
Supervisor: Prof. Luigi Callisto; Advisor: **Davide Noè Gorini**

2021-2022 Tony Fierro

Implementation of a bounding surface constitutive model in OpenSees for soil liquefaction analysis
Department of Civil Engineering, University of Molise, Italy
Supervisor: Prof. Filippo Santucci De Magistris; Advisors: Dr. Massimina Castiglia, **Davide Noè Gorini**

2020 to date Pasquale Roberto Marrazzo
Optimised seismic design of large mass ratio Tuned Mass Dampers in soil-structure systems
Faculty of Civil Engineering, University of Salerno, Italy
Supervisors: Prof. Rosario Montuori, Prof. Elide Nastri; Advisor: **Davide Noè Gorini**

2019-2022 Domenico Gallese
Soil-structure interaction for the seismic design of integral abutment bridges: from advanced numerical modelling to simplified procedures
Department of Structural and Geotechnical Engineering, Sapienza University of Rome, Italy
Supervisor: Prof. Luigi Callisto; Advisor: **Davide Noè Gorini**

M.Sc.

2023 Chiara Molinaro
Extension of the capacity spectrum method to the seismic design of multi-probbed retaining walls of deep excavations
Department of Structural and Geotechnical Engineering, Sapienza University of Rome, Italy
Supervisor: Prof. Luigi Callisto; Advisor: **Davide Noè Gorini**

2023 Agnese Manelli
Extension of the capacity spectrum method to the seismic design of tunnels
Department of Structural and Geotechnical Engineering, Sapienza University of Rome, Italy
Supervisor: Prof. Luigi Callisto; Tutors: Eng. Giuseppe Lombardi, **Davide Noè Gorini**

2021 Guglielmo Clarizia
Influence of soil-structure interaction on the effectiveness of large mass ratio Tuned Mass Dampers
Faculty of Civil Engineering, University of Salerno, Italy
Supervisors: Prof. Rosario Montuori, Prof. Elide Nastri; Advisor: **Davide Noè Gorini**

2021 Federica Baroni
Development of a coupled numerical procedure for the seismic assessment of integral abutment bridges
Department of Structural and Geotechnical Engineering, Sapienza University of Rome, Italy
Supervisor: Prof. Luigi Callisto; Tutors: Dr. Domenico Gallese, **Davide Noè Gorini**

2018 Alessandro Capodicasa
Semi-coupled numerical procedures for the study of soil-structure interaction for buildings under seismic conditions
Department of Structural and Geotechnical Engineering, Sapienza University of Rome, Italy
Supervisor: Prof. Luigi Callisto; Tutor: **Davide Noè Gorini**

2018 Cataldo Mingrone
Coupled numerical study on the seismic behaviour of deep foundations
Department of Structural and Geotechnical Engineering, Sapienza University of Rome, Italy
Supervisor: Prof. Luigi Callisto; Tutor: **Davide Noè Gorini**

- **TEACHING ACTIVITIES**

2022 to date teaching assistant – *Soil Investigation and Geotechnical Modelling* (ICAR/07, 6 ECTS), degree in Environmental Engineering, Sapienza University of Rome, Italy

2018 to date teaching assistant – *Geotechnical Earthquake Engineering* (ICAR/07, 6 ECTS), degree in Civil Engineering, Sapienza University of Rome, Italy

2018 to date teaching assistant – *Soil Mechanics* (ICAR/07, 9 ECTS), degree in Civil Engineering, Sapienza University of Rome, Italy

2020 – 2021 teaching contract – *Geotechnical Engineering* (in English, ICAR/07, 9 ECTS, 90 hours), degree in Sustainable Building Engineering, Sapienza University of Rome, Italy

- **REVIEWING ACTIVITIES**

Reviewer for the following peer-reviewed journals:

- *Acta Geotechnica*, since 2022, Germany, Springer
- *Applied Sciences*, since 2021, published online by MDPI
- *Structures*, since 2021, England, Elsevier
- *Earthquake Engineering and Structural Dynamics*, since 2021, England, Wiley Online Library
- *Mathematical Problems in Engineering*, since 2020, published online by MDPI
- *Advances in Civil Engineering*, since 2020, published online by MDPI
- *International Journal for Numerical and Analytical Methods in Geomechanics*, since 2020, England, Wiley Online Library
- *Journal of Geotechnical and Geoenvironmetal Engineering*, since 2020, United States, ASCE

- **MEMBERSHIPS OF SCIENTIFIC SOCIETIES**

2020 to date Member, *Italian Geotechnical Association (AGI)*

2020 to date Member, *International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE)*

- **RESEARCH INTERESTS**

Topics investigated

since 2023 real-time hybrid simulation analysis of a soil-structure-TMD system under seismic and wind excitation

since 2023 seismic design of multi-probbed retaining walls of deep excavations

since 2023 Domain reduction Method for assessing the effect of surface waves on the dynamic response of nonlinear soil-structure systems

since 2023 characterisation of the rotational foundation input motion of geotechnical systems for macroelement-based approaches

since 2023 design of base isolation techniques for seismic protection of structures accounting for soil-structure interaction

since 2023 conception, analysis and optimization of passive protection hysteretic devices for seismic protection

since 2022 genetic algorithms and machine learning approaches for optimising the seismic performance of conventional and non-conventional Tuned Mass Dampers

since 2022 coupled hydro-mechanical response of geotechnical systems

since 2022 seismic-resistant design solutions for bridge abutments and piled foundations

since 2022 seismic performance and design of tunnels

since 2022 probabilistic seismic assessment of slopes

since 2019 performance-based design and seismic risk assessment for bridges and buildings

since 2019 thermodynamic-based constitutive models

since 2018 computational mechanics, high-performance computing, hardware optimization

since 2018 development of computational tools (constitutive models, finite elements, solvers, automatized procedures) for civil engineering applications in OpenSees

since 2018 global sensitivity analysis methodologies for dynamic soil-structure interaction problems

since 2017 seismic performance of Tuned Mass Dampers and viscous dampers in soil-structure systems

since 2017 macroelement approach for including soil-structure interaction in the assessment of structures

since 2015 friction dissipative foundations for seismic protection of infrastructural systems

since 2015 dynamic soil-structure interaction

Perspectives

- experimental programme on the response of soil-structure systems under complex loading
- resonance features of geotechnical systems under multiaxial loading conditions
- minimal multi-risk infrastructural systems
- effect of the partial saturation of soils on the dynamic response of soil-structure systems

- energy foundations and thermo-hydro-mechanical behaviour of soil-structure systems

- **COMPUTER SKYLLS**

Ability to use the following programming languages and software

- C and C++; TCL; MATLAB; VISUAL STUDIO; FORTRAN; MATHEMATICA; PYTHON
- OPENSEES, OPENSEESSP and OPENSEESMP; CODE_ASTER; FLAC 2D and 3D; OPTUM 2G and 3G; ABAQUS; DYNA 6; SAP2000; PLAXIS 2D and 3D
- GID; GMSH; AUTOCAD
- LATEX; LYX

I am passionate about hardware optimisation to carry out complex numerical simulations on large domains. I have experience in:

- assembly custom, multi-core workstations;
- use of high performance computing; in this regard, in 2018 I used the supercomputing resources at CINECA (Italian Consortium for High Performance Computing) and I am a multi-year user of the supercomputer facilities of the Texas Advanced Computing Center (2019 to date).

- **DEVELOPING FEATURES IN OPENSEES**

Uniaxial materials

2019 *1DSAME*: generalised Iwan model for bridge abutments (Gorini, 2019)

Multiaxial materials

2023 *SANICLAY-B*: bounding surface plasticity model for fine-grained soils (Seidalinov and Taiebat, 2014)

2023 *SANICLAY06*: bounding surface plasticity model for fine-grained soils (Dafalias et al., 2006)

2021 *3DSAME*: 3 d.o.f. macroelement for semi-integral bridge abutments (Gorini et al., 2019)

2021 *6DSAME*: 6 d.o.f. macroelement for integral bridge abutments (Gorini and Callisto, 2020)

2021 *5DSAME*: 5 d.o.f. macroelement for deep foundations (Gorini and Callisto, 2021)

2021 *NTUASand02*: bounding surface plasticity model for coarse-grained soils (Papadimitriou and Bouckovalas, 2002)

Finite elements

2021 *ZeroLength6D*: zero-length finite element with fully coupled translational-rotational response (Gorini, 2021)

Automatised numerical procedures

2023 subsidence analysis induced by time-dependent pore water pressure boundary conditions

2023 parametric modal analysis of slopes

2023 free-field absorbing boundary for soil-structure domains under dynamic loading

2022 parametric model for soil-tunnel systems

2022 parametric model for soil-foundation systems

2021 nonlinear static analysis for soil-structure systems

2021 modal analysis of soil-structure domains

2021 parametric assignment of dynamic boundary conditions to complex soil-structure domains

2020 parametric model for multi-span soil-bridge systems

- **SCIENTIFIC COLLABORATIONS**

2023 to date Prof. Boris Jeremic
Department of Civil and Environmental Engineering, University of California, Davis, California (United States)
Rotational response of foundations and abutments (under planning)

2023 to date Dr. Fabio Rollo
Department of Structural and Geotechnical Engineering, Sapienza University of Rome, Italy
Development and implementation in OpenSees of a new thermodynamic-based bounding surface model for clayey soils under cyclic loading (under planning)

2023 to date	Dr. Salvatore Sessa University of Naples Federico II (Italy) *Numerical analysis of a deep excavation in complex conditions: a real case study* (under planning)
2023 to date	Prof. James Ricles, Dr. Liang Cao, Eng. Faisal Nissar Malik Department of Civil & Environmental Engineering, Lehigh University, Bethlehem, Pennsylvania (United States) *Real-time hybrid simulations on soil-building systems equipped with non-conventional Tuned Mass Dampers and viscous dampers*
2023 to date	Prof. Guido Camata, Dr. Massimo Petracca D'Annunzio University of Chieti–Pescara, ASDEA Software Technology srl, Pescara, Italy *Implementation of a toolkit for incorporating the TIM approach (Gorini and Callisto, 2022) within the pre/post-processor software STKO*
2023	Dr. Amedeo Flora University of Basilicata, Potenza, Italy *Optimised design of base isolation systems in soil-structure layouts*
2022 to date	Prof. Nicola Nisticò, Eng. Giulio Proietti Sapienza University of Rome, Rome, Italy *Development, experimental and numerical modelling of high performance passive control devices for protection of buildings under dynamic excitation*
2022-2023	Prof. José Abell University of the Andes, Santiago, Chile *A thermodynamic, inertial macroelement with hydro-mechanical coupling for caisson and monopile foundations of offshore structures*
2022	Prof. Bruno Briseghella, Prof. Camillo Nuti, Prof. Junqing Xue, Dr. Yufeng Tang, Prof. Luigi Callisto University of Fuzhou (China), University of Roma 3 (Italy), Sapienza University of Rome (Italy) *Approach slab-soil interaction due to thermal effects in jointless bridges*
2022 to date	Dr. Fabio Rollo Department of Structural and Geotechnical Engineering, Sapienza University of Rome, Italy *Large-scale seismic risk assessment of natural slopes: dynamic features and multi-parameter probabilistic relationships*
2021 to date	Dr. Tony Fierro, Prof. Filippo Santucci De Magistris Department of Civil Engineering, University of Molise, Italy *Implementation of advanced constitutive models for coarse-grained soils in OpenSees*
2020 to date	Prof. Rosario Montuori, Prof. Elide Nastri and Dr. Pasquale Marrazzo Department of Civil Engineering, University of Salerno, Italy *Seismic performance and design of large mass ratio Tuned Mass Dampers for seismic protection of existing buildings*
2018-2020	Dr. Salvatore Sessa University of Naples Federico II (Italy) *Coding multiaxial materials in OpenSees*
2018 to date	Prof. Andrew John Whittle Massachusetts Institute of Technology (MIT), Massachusetts, United States *Development of hyperplastic constitutive laws for bridge abutments*
2017 to date	Dr. Corrado Chisari Department of Architecture and Industrial Design, University of Campania "Luigi Vanvitelli", Italy *Optimised design of Tuned Mass Dampers considering dynamic soil-structure interaction*
2015 to date	Prof. Luigi Callisto Department of Structural and Geotechnical Engineering, Sapienza University of Rome, Italy *Supervisor of the research activity carried out by the group at Sapienza University of Rome*

- **CONSULTING ACTIVITY**

2019, Jan-Apr Consulting activity
Department of Structural and Geotechnical Engineering, Sapienza University of Rome, Italy
Seismic design of the foundations of a new multi-span bridge in Italy

2019, Apr-Jun Geotechnical research group
Department of Structural and Geotechnical Engineering, Sapienza University of Rome, Italy
Study of dynamic soil-structure interaction for bridge abutments

2018, Sep-Dec Consulting activity
Department of Structural and Geotechnical Engineering, Sapienza University of Rome, Italy
Seismic design of the foundations of a new suspension bridge in Braila (Romania)

2017, Aug-Oct Consulting activity
Department of Structural and Geotechnical Engineering, Sapienza University of Rome, Italy
Seismic hazard adjustment of an existing masonry bridge in Italy

2017, Sep-Nov Consulting activity
Department of Structural and Geotechnical Engineering, Sapienza University of Rome, Italy
Seismic hazard assessment for the site of the Panama Canal

2015, Feb-Jul Geotechnical research group
Department of Structural and Geotechnical Engineering, Sapienza University of Rome, Italy
Friction dissipative foundations for seismic protection of long-span bridges

- **ORGANISATION OF SCIENTIFIC EVENTS**

2023 *Soil-structure interaction in OpenSees: strategies, applications and perspectives*
Typology: international doctorate school
Organisers: **Davide Noè Gorini (chair)**, Luigi Callisto, Paolo Franchin, Tony Fierro
Speakers: **Davide Noè Gorini**, Prof. Pedro Arduino, Prof. Luigi Callisto, Prof. Frank McKenna, Dr. Domenico Gallese, Prof. José Abell, Prof. Federico Pisanò, Prof. Christopher McGann, Prof. Anastasios Sextos, Dr. Tony Fierro, Dr. Tim Cockerill, Dr. Andrea Marchi, Dr. Amedeo Flora, Eng. Giuseppe Lombardi, Dr. Massimo Petracca, Eng. Pasquale R. Marrazzo
Rome, Italy, 7-10 February 2023
Participants: 75 (40 % from outside Italy)

- **COMMITTEES OF SCIENTIFIC CONFERENCES AND EVENTS**

2023 *Numerical Methods in Geotechnical Engineering 2023*
Typology: international conference
Role: official reviewer
Imperial College London, London, England, 26-28 June 2023

2019 *7 ICEGE 2019 – 7th International Conference on Earthquake Geotechnical Engineering*
Typology: international conference
Role: official reviewer
Rome, Italy, 17-20 June 2019

2019 *4th International Short Course on Seismic Analysis of Structures using OpenSees: Finite Element-based Framework and Civil Engineering Applications*
Typology: international doctorate school
Scientific committee: Lu X., Pampanin S., Demartino C., Di Trapani F., Di Re P., Lavorato D., Marmo F., Minafò G., Sessa S., **Gorini D.N.**, Di Gangi G.

- **RESEARCH FUNDING**

2019 – 2021 Seismic reliability of Italian code-conforming bridges
Funding Body: Italian Civil Protection
Budget assigned to the geotechnical engineering Group (Head: Prof. Callisto; Research Assistant: Gorini): € 30.000,00

Role in the project: foundations design; developing multiaxial Thermodynamic Inertial Macroelements (TIMs) for dynamic soil-abutment, soil-piles and soil-caisson interaction in OpenSees; seismic assessment of bridges

2018, Feb-May Scholarship for PhD mobility – research project *Dynamic soil-abutment-superstructure interaction and its influence on the seismic performance of bridges*
Funding Body: Sapienza University of Rome, Italy
Budget: € 7.500,00
Objective: development of a thermodynamic macroelement for bridge abutments

2018 ISCRA supercomputing research project – research project *Seismic soil-abutment-superstructure interaction*
Funding Body: CINECA (Italian Consortium for High Performance Computing)
Objective: use of supercomputing resources for demanding seismic simulations on large soil-abutment-bridge domains

2018 University funding for scientific research
Research project *Dynamic soil-abutment-superstructure interaction: phenomenology and design*
Funding Body: Sapienza University of Rome, Italy
Budget: € 2.000,00
Objective: upgrade of computing resources for highly demanding dynamic computations

2017 University funding for scientific research – research project *Dynamic soil-abutment-superstructure interaction and seismic performance of girder bridges*
Funding Body: Sapienza University of Rome, Italy
Budget: € 2.000,00
Objective: upgrade of computing resources for highly demanding dynamic computations

2015, Feb-Jul Coordinated and Continuative Collaboration contract
Research project *Seismic performance and design of friction dissipative foundations for long-span bridges*.
Department of Structural and Geotechnical Engineering, Sapienza University of Rome, Italy
Budget: € 12.000,00
Objective: development of a design approach for friction dissipative foundations

- **INVITED LECTURES AND SEMINARS**

2023, June *TIM approach: a thermodynamic standpoint for nonlinear soil-structure interaction*
Scientific seminar, 1h - doctorate program in Structural and Geotechnical Engineering
Politecnico of Milano, Milano, Italy

2023, Mar *Multi-scaling in the seismic analysis of nonlinear soil-structure systems*
Scientific seminar, 1h - doctorate program in Structural and Geotechnical Engineering
D'Annunzio University of Chieti–Pescara, Pescara, Italy

2023, Mar *Controlling inertia in soil-structure systems*
Scientific seminar, 1h - Lehigh University & NHERI DesignSafe Seminar Series
Lehigh University, Bethlehem, Pennsylvania, United States

2022, Mar *Anti-seismic soil-structure systems: dynamic coupling, dominant dissipative features and novel solutions*
Scientific seminar, 2h - doctorate program in Structural and Geotechnical Engineering
University of Salerno, Salerno, Italy

2021, Jun *A class of inertial macroelements for dynamic soil-structure interaction*
Scientific seminar, 1h 30' – seminar series "Smetto quando voglio", Organisers: Dr. Giulia Guida, Prof. Francesca Casini, Prof. Riccardo Conti
University of Rome Tor Vergata, Rome, Italy

2020, Dec *A constitutive glance at the irreversible behaviour of soil*
Scientific seminar, 3h - Master's degree program in Civil Engineering
Sapienza University of Rome, Rome, Italy.

2019, Mar *Modelling soil-structure interaction for girder bridges*

Scientific seminar, 2h – doctorate course "4th International Short Course on OpenSees – Seismic Analysis of Structures using OpenSees: Finite Element-based Framework and Civil Engineering Applications"
Rome, Italy

2017, Apr *Dynamic soil-structure interaction*
Scientific seminar, 3h - Master's degree program in Civil Engineering
Sapienza University of Rome, Rome, Italy

2016, May *Dynamic soil-structure interaction*
Scientific seminar, 3h - Master's degree program in Civil Engineering
Sapienza University of Rome, Rome, Italy

- **LANGUAGE**

- Italian mother tongue
- advanced knowledge of English: writing C2, reading C2, speaking C1, listening C2.

- **OTHER PERSONAL ACTIVITIES**

2015 to date Once a year, presentation to high school students about *Beauty of Engineering*
2020 to date Volunteering at the pediatric hospital *Bambino Gesù* (Rome)
2014 - 2018 Collaborator in parish functions, such as people education, soup kitchen, clothing distribution
2009 - 2015 Volunteer tutoring of Mathematics, Geometry, Physics, Continuum Mechanics, Soil Mechanics, Structural Analysis and Design to undergraduates in Civil, Mechanical Engineering and Architecture at Sapienza University of Rome
2005 - 2015 Mathematics and Physics tutoring to high School students
1999 - 2015 Competitive practice of basketball and rowing

- **PUBLICATION LIST**

Dissertation and technical reports

B1. Franchin, P., Baltzopoulos, G., Biondini, F., Callisto, L., Capacci, L., Cardone, D., Dall'Asta, A., Flora, A., **Gorini, D.N.**, Iervolino, I., Marchi, A., Micozzi, F., Noto, F., Perrone, G., Scozzese, F. (2023): *Final report on the seismic reliability of Italian code-conforming bridges*, Final Report, Reluis research project DPC 2019-2021

B2. **Gorini, D.N.** (2019): *Soil-structure interaction for bridge abutments: two complementary macro-elements*, PhD thesis, Sapienza University of Rome, Italy, https://iris.uniroma1.it/handle/11573/1260972

Journal papers

J1. Potini, F., **Gorini, D.N.**, and Conti, R. (2023): *Rigorous lower and upper bounds for the generalized failure loads of pile groups*. Geotechnique Letters, 13(2):1-21, doi: 10.1680/jgele.22.00138.

J2. **Gorini, D.N.**, Callisto, L., Whittle A.J., and Sessa, S. (2023): *A multiaxial inertial macroelement for bridge abutments*, International Journal for Numerical and Analytical Methods in Geomechanics, Vol. 47, pp. 793-816, doi: 10.1002/nag.3493.

J3. **Gorini, D.N.** and Callisto, L. (2023): *A multiaxial inertial macroelement for deep foundations*, Computers and Geotechnics, Vol. 155, doi: https://doi.org/10.1016/j.compgeo.2022.105222.

J4. Marchi, A., Gallese, D., **Gorini, D.N.**, Franchin, P., and Callisto, L. (2022): *On the seismic performance of integral abutment bridges: from advanced numerical modelling to a practice-oriented analysis method*, Earthquake Engineering and Structural Dynamics. DOI: 10.1002/eqe.3755

J5. **Gorini, D.N.** and Chisari, C. (2022): *Impact of soil-structure interaction on the effectiveness of Tuned Mass Dampers*, Earthquake Engineering & Structural Dynamics, Vol. 51(6), pp. 1501-1521, doi: 10.1002/eqe.3625

J6. **Gorini, D.N.** and Callisto, L. (2022): *Generalised ultimate loads for pile groups*, Acta Geotechnica, Vol. 17, pp. 2495-2516, doi: https://doi.org/10.1007/s11440-021-01386-4

J7. **Gorini, D.N.**, Callisto, L. and Whittle A.J. (2022): *An inertial macroelement for bridge abutments*, Geotechnique, Vol. 72(3), pp. 247-259, DOI: https://doi.org/10.1680/jgeot.19.P.397

J8. **Gorini, D.N.**, Callisto, L. and Whittle A.J. (2021): *Dominant responses of bridge abutments*, Soil Dynamics and Earthquake Engineering, DOI: https://doi.org/10.1016/j.soildyn.2021.106723

J9. Callisto, L. and **Gorini, D.N.** (2020): *Seismic behaviour of a suspension bridge with dissipative foundations*, Italian Geotechnical Journal, Vol. 1/2020(1), pp. 22-37, doi.org/10.19199/2020.1.0557-1405.022

J10. **Gorini, D.N.**, Whittle A.J. and Callisto, L. (2020): *Ultimate limit states of bridge abutments*, Journal of Geotechnical and Geoenvironmental Engineering, Vol. 146(7), DOI: 10.1061/(ASCE)GT.1943-5606.0002283

J11. **Gorini, D.N.** and Callisto, L. (2020): *A macro-element approach to analyse bridge abutments accounting for the dynamic behaviour of the superstructure*, Geotechnique, Vol. 70(8), pp. 711-719, DOI: 10.1680/jgeot.19.ti.012

J12. **Gorini, D.N.** and Callisto, L. (2019): *Seismic performance and design approach for friction dissipative foundations*, Soil Dynamics and Earthquake Engineering, Vol. 123, 2019, pp. 513-519, DOI: 10.1016/j.soildyn.2019.05.006

Fully referred chapters

C1. **Gorini, D.N.**, and Callisto, L. (2022): *Validazione e utilizzo di un macro-elemento termodinamico multi-assiale per spalle da ponte*, Proceedings of the Annual Meeting of Geotechnical Researchers - IARG2022, ISBN 9788897517108, Ed. Edizioni AGI, Roma, link www.iarg2022.it.

C2. Fierro, T., **Gorini, D.N.**, Castiglia, M., and Santucci de Magistris, F. (2022): *Implementazione e validazione di un modello costitutivo avanzato per le sabbie in OpenSees*, Proceedings of the Annual Meeting of Geotechnical Researchers - IARG2022, ISBN 9788897517108, Ed. Edizioni AGI, Roma, link www.iarg2022.it.

C3. **Gorini, D.N.**, and Callisto, L. (2022): *A class of thermodynamic inertial macroelements for soil-structure interaction*, In Springer Series in Geotechnical, Geological and Earthquake Engineering, proceedings of the 4th International Conference on: Performance based Design in Earthquake Geotechnical Engineering, Beijing, China, 1095-1102, doi: 10.1007/978-3-031-11898-2_87.

C4. **Gorini, D.N.**, Clarizia, G., Nastri, E., Marrazzo, P., and Montuori, R. (2022): *Assessment of the seismic performance of large mass ratio Tuned Mass Dampers in a soil-structure system*, In Springer Series in Geotechnical, Geological and Earthquake Engineering, proceedings of the 4th International Conference on: Performance based Design in Earthquake Geotechnical Engineering, Beijing, China, 747-754, doi: 10.1007/978-3-031-11898-2_48.

C5. Gallese, D., **Gorini, D.N.**, and Callisto, L. (2022): *On a novel seismic design approach for integral abutment bridges based on nonlinear static analysis*, In Springer Series in Geotechnical, Geological and Earthquake Engineering, proceedings of the 4th International Conference on: Performance based Design in Earthquake Geotechnical Engineering, Beijing, China, 730-738, doi: 10.1007/978-3-031-11898-2_46.

C6. **Gorini, D.N.**, and Callisto, L. (2022): *A thermodynamic-based macroelement approach for dynamic analysis of soil-structure systems*. In Lecture Notes in Civil Engineering, Proceedings of the 2022 Eurasian OpenSees days, Editors: Di Trapani F., Demartino C., Marano G. C., Monti G., pp. 398-407, ISSN 2366-2557, ISBN 978-3-031-30124-7, 978-3-031-30125-4 (eBook), doi: https://doi.org/10.1007/978-3-031-30125-4_36.

C7. **Gorini, D.N.**, Clarizia, G., Marrazzo, P., Montuori, R. and Nastri, E. (2022): *On the seismic protection of existing structures: a large-scale modelling of nonlinear soil-structure-TMD interaction*. In Lecture Notes in Civil Engineering, Proceedings of the 2022 Eurasian OpenSees days, Editors: Di Trapani F., Demartino C., Marano G. C., Monti G., pp. 97-106, ISSN 2366-2557, ISBN 978-3-031-30124-7, 978-3-031-30125-4 (eBook), doi: https://doi.org/10.1007/978-3-031-30125-4_9.

C8. Gallese, D., **Gorini, D.N.**, and Callisto, L. (2022): *Modelling nonlinear static analysis for soil-structure interaction problems*. In Lecture Notes in Civil Engineering, Proceedings of the 2022 Eurasian OpenSees days, Editors: Di Trapani F., Demartino C., Marano G. C., Monti G., pp. 377-387, ISSN 2366-2557, ISBN 978-3-031-30124-7, 978-3-031-30125-4 (eBook), doi: https://doi.org/10.1007/978-3-031-30125-4_34.

C9. Fierro, T., **Gorini, D.N.**, Castiglia, M. and Santucci de Magistris, F. (2022): *Implementation and use of the bounding surface plasticity geomaterial NTUASand02*. In Lecture Notes in Civil Engineering, Proceedings of the 2022 Eurasian OpenSees days, Editors: Di Trapani F., Demartino C., Marano G. C., Monti G., ISSN 2366-2557, pp. 334-343, ISBN 978-3-031-30124-7, 978-3-031-30125-4 (eBook), https://doi.org/10.1007/978-3-031-30125-4_30.

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