

Davide Noè Gorini

Curriculum Vitae

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 with dissipative foundations*
Supervisor: Prof. Luigi Callisto, Sapienza University of Rome, Italy
Advisor: Prof. Fabio Brancaleoni, Sapienza University of Rome, Italy

2011, Dec 20 Bachelor, overall grade: 110/110
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.

2024 to date Alireza Duzandeh
Seismic response of sandy and clayey soil deposits under complex stratigraphic and topographic conditions
University of Florence (Italy)
Supervisor: Prof. Marco Uzielli; co-Supervisor: **Davide Noè Gorini**

2022 to date Malik Faisal Nissar
Role of soil-structure interaction on the dynamic performance of soil-structure systems equipped with protection solutions under multi-hazard scenarios
University of Lehigh (US)
Supervisors: Prof. James Ricles, **Davide Noè Gorini**

2022-2023 Giulio Proietti
Development of high-performance 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 thermodynamic-based macroelement with hydro-mechanical coupling for shallow foundations
 Department of Structural and Geotechnical Engineering, Sapienza University of Rome, Italy
 Supervisors: Prof. Luigi Callisto, **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; Advisor: **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. Elide Nastri, **Davide Noè Gorini**, Prof. Rosario Montuori
- 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.**
- 2024 Andrea de Luca
Numerical modelling of the seismic response of basins under complex stratigraphic and topographic conditions
 University of Florence (Italy)
 Supervisors: Prof. Marco Uzielli, **Davide Noè Gorini**
- 2024 Maria Luisa di Salvatore
Advanced numerical modelling of soil-building systems equipped with Large Mass ratio Tuned Mass Dampers under multi-hazard scenarios
 Faculty of Civil Engineering, University of Salerno, Italy
 Supervisors: Prof. Rosario Montuori, **Davide Noè Gorini**, Prof. Elide Nastri
- 2024 Imma Califano
Maximising energy dissipation in soil-structure systems equipped with base isolation technologies
 Faculty of Civil Engineering, University of Salerno, Italy
 Supervisors: Prof. Rosario Montuori, **Davide Noè Gorini**, Prof. Elide Nastri
- 2023-2024 Ilaria Petti
Optimised design of seismic-resistant superelevations considering nonlinear soil-structure interaction
 Faculty of Civil Engineering, University of Salerno, Italy
 Supervisors: Prof. Rosario Montuori, **Davide Noè Gorini**, Prof. Elide Nastri
- 2023 Chiara Molinaro
Extending the Capacity Spectrum Method to the seismic design of multi-propped deep excavations
 Department of Structural and Geotechnical Engineering, Sapienza University of Rome, Italy
 Supervisors: Prof. Luigi Callisto, **Davide Noè Gorini**
- 2023 Agnese Manelli
Extending 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; Advisor: Davide Noè Gorini ; Tutor: Eng. Giuseppe Lombardi
2021	Guglielmo Clarizia <i>Influence of soil-structure interaction on the effectiveness of large mass ratio Tuned Mass Dampers</i> Faculty of Civil Engineering, University of Salerno, Italy Supervisors: Prof. Rosario Montuori, Davide Noè Gorini , Prof. Elide Nastri
2021	Federica Baroni <i>Development of a coupled numerical procedure for the seismic assessment of integral abutment bridges</i> 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 <i>Semi-coupled numerical procedures for the study of soil-structure interaction for buildings under seismic conditions</i> Department of Structural and Geotechnical Engineering, Sapienza University of Rome, Italy Supervisor: Prof. Luigi Callisto; Tutor: Davide Noè Gorini
2018	Cataldo Mingrone <i>Coupled numerical study on the seismic behaviour of deep foundations</i> 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 – <i>Soil Investigation and Geotechnical Modelling</i> (ICAR/07, 6 ECTS), degree in Environmental Engineering, Sapienza University of Rome, Italy
2018 to date	teaching assistant – <i>Geotechnical Earthquake Engineering</i> (ICAR/07, 6 ECTS), degree in Civil Engineering, Sapienza University of Rome, Italy
2018 to date	teaching assistant – <i>Soil Mechanics</i> (ICAR/07, 9 ECTS), degree in Civil Engineering, Sapienza University of Rome, Italy
2016-2017	teaching assistant – <i>Design and Management of bridges and infrastructures</i> (ICAR/09, 12 ECTS), degree in Civil Engineering, Sapienza University of Rome, Italy
2020-2021	teaching contract – <i>Geotechnical Engineering</i> (in English, ICAR/07, 9 ECTS, 90 hours), degree in Sustainable Building Engineering, Sapienza University of Rome, Italy

ORGANISATION OF SCIENTIFIC EVENTS

2024	<i>Computational Dynamic Soil-Structure Interaction - CompDSSI</i> Typology: in-presence International Workshop (website) Organising Committee: Davide Noè Gorini (chair), Prof. Pedro Arduino, Dr. Domenico Gallese Scientific Committee: Davide Noè Gorini , Prof. Pedro Arduino, Prof. Anastasios Sextos, Prof. Shideh Dashti, Prof. Guido Camata, Prof. Christopher McGann, Prof. Francesca Dezi, Prof. Nikos Gerolymos, Prof. Federico Pisanò, Prof. Ertugrul Taciroglu, Prof. Claudio Tamagnini, Prof. José A. Abell, Prof. Stefania Sica, Prof. James Ricles, Prof. Domniki Asimaki, Prof. Paolo Franchin, Dr. Yu-Wei Hwang, Dr. Massimo Petracca, Prof. Stavroula Kontoe, Prof. Boris Jeremic, Prof. Youssef Hashash, Dr. Domenico Gallese Keynote Speakers: Prof. David McCellan, Prof. Ertugrul Taciroglu, Prof. Shideh Dashti, Prof. Federico Pisanò, Prof. Daniela Boldini Rome, Italy, 11-13 September 2024
2024	<i>Soil-structure interaction in OpenSees: strategies, applications and perspectives</i> Typology: in-presence International Doctorate School (website) Organising Committee: Davide Noè Gorini (chair), Prof. Pedro Arduino, Dr. Domenico Gallese, Prof. Guido Camata, Dr. Massimo Petracca

Speakers: **Davide Noè Gorini**, Prof. Pedro Arduino, Prof. José Abell, Prof. Frank McKenna, Dr. Silvia Mazzoni, Dr. Domenico Gallese, Dr. Massimo Petracca, Dr. Tony Fierro, Dr. Yu-Wei Hwang, Dr. Giuseppe Lombardi, Dr. Faisal Nissar Malik
Rome, Italy, 9-11 September 2024

2023 *Soil-structure interaction in OpenSees: strategies, applications and perspectives*
Typology: in-presence International Doctorate School
Organising Committee: **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 (45 % from outside Italy)

COMMITTEES OF SCIENTIFIC EVENTS

2024 *8 ICEGE 2024 – 8th International Conference on Earthquake Geotechnical Engineering*
Typology: international conference
Role: reviewer
Osaka, Japan, 7-10 May 2024

2023 *Numerical Methods in Geotechnical Engineering 2023*
Typology: international conference
Role: 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: 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.

REVIEWING ACTIVITIES

Reviewer for the following peer-reviewed journals:

- *Computers and Geotechnics*, since 2023, United Kingdom, Elsevier (papers reviewed: 1)
- *Engineering Structures*, since 2023, United Kingdom, Elsevier (papers reviewed: 5)
- *Italian Geotechnical Journal*, since 2023 (papers reviewed: 1)
- *Acta Geotechnica*, since 2022, Germany, Springer (papers reviewed: 4)
- *Earthquake Engineering and Structural Dynamics*, since 2021, England, Wiley Online Library (papers reviewed: 3)
- *Structures*, since 2021, United Kingdom, Elsevier (papers reviewed: 3)
- *Applied Sciences*, since 2021, published online by MDPI (papers reviewed: 1)
- *Mathematical Problems in Engineering*, since 2020, published online by MDPI (papers reviewed: 1)
- *Advances in Civil Engineering*, since 2020, published online by MDPI (papers reviewed: 1)
- *International Journal for Numerical and Analytical Methods in Geomechanics*, since 2020, England, Wiley Online Library (papers reviewed: 7)
- *Journal of Geotechnical and Geoenvironmental Engineering*, since 2020, United States, ASCE (papers reviewed: 1)
- *Advances in Structural Engineering*, since 2020, United States (papers reviewed: 1)
- *Geotechnique*, since 2020, United Kingdom, ICE Virtual Library (papers reviewed: 1)
- *Soil Dynamics and Earthquake Engineering*, since 2020, United Kingdom, Elsevier (papers reviewed: 2)

INVITED LECTURES AND SEMINARS

- 2024, Sept *Thermodynamic Inertial Macroelements simulating the hydro-mechanical response of geotechnical systems: from meso-scale features to a macro-scale framework*
Distinguished Lecture for the EUROMECH Colloquia - International Colloquium on Multiscale and Multiphysics Modelling for Advanced and Sustainable Materials (Organisers: Prof. Trovalusci P., Prof. Sadowski T., Prof. Ibrahimbegovic A.)
Sapienza University of Rome, Rome, Italy
- 2024, Nov *On the performance and design of soil-driven hazard protection solutions*
Scientific webinar, 1^h - Academic Forum Series promoted by the peer-reviewed journal Engineering Structures (Editors: Yang J., Izzuddin B.A., Ng C.T., Ricles J.)
- 2024, Oct *title to be announced soon*
Scientific webinar, 1^h - NHERI DesignSafe-ASDEA Seminar Series
- 2024, June *Design of bridge abutments: common practice and novel trends*
Scientific seminar, 1^h - ANAS S.p.A. company
Rome, Italy
- 2024, March *Van Gogh-inspired soil-structure interaction for an enhanced vision of hazard resistant civil engineering structures*
Scientific seminar, 1^h - Northwestern University
Evanston, Illinois, United States
- 2023, June *TIM approach: a thermodynamic standpoint for nonlinear soil-structure interaction*
Scientific seminar, 1^h - 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, 1^h - doctorate program in Structural and Geotechnical Engineering
D'Annunzio University of Chieti–Pescara, Pescara, Italy
- 2023, Mar *Controlling inertia in soil-structure systems*
Scientific webinar, 1^h - 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, 2^h - 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, 1^h 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, 3^h - Master's degree program in Civil Engineering
Sapienza University of Rome, Rome, Italy.
- 2019, Mar *Modelling soil-structure interaction for girder bridges*
Scientific seminar, 2^h – 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, 3^h - Master's degree program in Civil Engineering
Sapienza University of Rome, Rome, Italy
- 2016, May *Dynamic soil-structure interaction*
Scientific seminar, 3^h - Master's degree program in Civil Engineering
Sapienza University of Rome, Rome, Italy

RESEARCH INTERESTS

Topics investigated

since 2024	artificial intelligence-based optimisation of the multi-hazard dynamic performance of soil-bridge and soil-tunnel systems
since 2024	seismic response of clayey and sandy basins under complex topographic, stratigraphic and loading conditions
since 2023	real-time hybrid simulation analysis of soil-structure systems equipped with combined protection solutions under seismic and wind excitation
since 2023	seismic design of multi-propped 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 the multi-hazard protection of structures accounting for soil-structure interaction
since 2023	conception, analysis and optimization of passive hysteretic devices as protection of structures against dynamic loading
since 2022	genetic algorithms and machine learning approaches for optimising the dynamic performance of conventional and non-conventional Tuned Mass Dampers
since 2022	coupled hydro-mechanical response of geotechnical systems
since 2022	hazard-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

FEATURES DEVELOPED IN THE OPEN-SOURCE ANALYSIS FRAMEWORK OPENSEES

Uniaxial materials

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

Multiaxial materials (at meso- and macro-scale)

2023	<i>6DSFME</i> : 6 d.o.f. macroelement for shallow foundations (Gorini, 2019)
2023	<i>SANICLAY-B</i> : bounding surface plasticity model for fine-grained soils (Seidalinov and Taiebat, 2014)
2023	<i>SANICLAY06</i> : bounding surface plasticity model for fine-grained soils (Dafalias et al., 2006)
2021	<i>3DSAME</i> : 3 d.o.f. macroelement for semi-integral bridge abutments (Gorini et al., 2019)
2021	<i>6DSAME</i> : 6 d.o.f. macroelement for integral bridge abutments (Gorini and Callisto, 2020)
2021	<i>5DSAME</i> : 5 d.o.f. macroelement for deep foundations (Gorini and Callisto, 2021)
2021	<i>NTUASand02</i> : 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

- 2024 implementation of the Domain Reduction Method (Bielak et al., 2003) for the large-scale propagation of seismic waves, from the focal mechanism to the soil-structure system, accounting for wave incoherence and surface waves
- 2023 genetic algorithm for optimising the performance of bridges accounting for inertial & nonlinear features of soil-structure interaction
- 2023 optimised partition of large soil-structure domains for parallel computing
- 2023 staged analysis procedure to simulate the construction sequence of multi-propped retaining walls
- 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

Analysis approaches to dynamic soil-structure interaction

- Prof. Luigi Callisto (2017 to date)
Sapienza University of Rome, Rome, Italy
Macroelement modelling for nonlinear soil-structure interaction under dynamic conditions
Seismic design methodologies for tunnels, dams and deep excavations
- Prof. Luigi Callisto, Prof. Paolo Franchin, Dr. Andrea Marchi (2019-2021)
Sapienza University of Rome, Rome, Italy
Seismic risk of bridge stocks accounting for nonlinear & inertial soil-structure interaction
- Prof. Pedro Arduino (2023 to date)
Department of Civil and Environmental Engineering, University of Washington, Seattle, United States
Rotational response of soil-foundation systems
- Prof. Bruno Briseghella¹, Prof. Camillo Nuti², Prof. Junqing Xue¹, Dr. Yufeng Tang¹, Prof. Luigi Callisto³ (2022)
¹Department of Civil Engineering, University of Fuzhou, China
²Department of Civil Engineering, University of Roma 3, Italy
³Sapienza University of Rome, Rome, Italy
Approach slab-soil interaction in jointless bridges

Dynamic performance and design of hazard-resistant solutions for soil-structure systems

- Prof. Luigi Callisto (2022 to date)
Sapienza University of Rome, Rome, Italy
Dissipative bridge abutments and foundations
- Prof. James Ricles, Dr. Faisal Nissar Malik, Dr. Safwan Al-Subaihawi (2023 to date)
Department of Civil & Environmental Engineering, Lehigh University, Bethlehem, Pennsylvania, United States
Real-time hybrid simulations of soil-building systems equipped with optimal combinations of protection solutions
- Prof. Rosario Montuori, Prof. Elide Nastri, Dr. Pasquale Marrazzo (2020 to date)
Department of Civil Engineering, University of Salerno, Italy
Performance and design of large mass ratio Tuned Mass Dampers for seismic and wind protection of existing buildings
Optimised design of structural and geotechnical base isolation techniques in soil-structure layouts
- Dr. Corrado Chisari (2018 to date)
Department of Architecture and Industrial Design, University of Campania “Luigi Vanvitelli”, Italy
Optimised design of conventional Tuned Mass Dampers considering dynamic soil-structure interaction

- Prof. Salvatore Sessa (2023 to date)
Department of Architecture and Industrial Design, University of Campania “Luigi Vanvitelli”, Italy
Artificial intelligence-based optimised design of hazard-resistant soil-bridge systems
- Prof. Nicola Nisticò, Eng. Giulio Proietti (2022-2023)
Sapienza University of Rome, Rome, Italy
Development, experimental and numerical modelling of high-performance passive control devices for protection of buildings against dynamic excitation

Computational mechanics and tools for civil engineering applications

- Prof. Pedro Arduino (2023 to date)
Department of Civil and Environmental Engineering, University of Washington, Seattle, United States
Developing OpenSees: dynamic performance of soil-foundation systems considering hydro-mechanical coupling of the soil behaviour; parallel computing optimisation; regional analysis of soil-infrastructure systems under earthquake and wind loading
- Prof. Boris Jeremic (2023 to date)
Department of Civil and Environmental Engineering, University of California, Davis, California, United States
Domain Reduction method for assessing the seismic performance of large soil-infrastructure systems
- Prof. Guido Camata, Dr. Massimo Petracca (2023 to date)
D'Annunzio University of Chieti–Pescara, ASDEA Software Technology srl, Pescara, Italy
Implementation of a toolkit for incorporating the TIM approach within the pre/post-processor software STKO
Partition strategies for extremely demanding soil-foundation-infrastructure domains under dynamic loading
- Dr. Tony Fierro, Prof. Filippo Santucci De Magistris (2021 to date)
Department of Civil Engineering, University of Molise, Italy
Implementation of advanced constitutive models for coarse- and fine-grained soils in OpenSees

Constitutive modelling

- Prof. Andrew John Whittle (2018-2022)
Massachusetts Institute of Technology (MIT), Massachusetts, United States
Thermodynamic-based constitutive laws simulating the macro-response of bridge abutments
- Dr. Tony Fierro (2023 to date)
Department of Civil Engineering, University of Molise, Italy
Algorithms for optimised calibrations of bounding surface constitutive models for soils

Dynamic response of soil

- Prof. Marco Uzielli¹, Prof. Claudia Madaia¹, Prof. Luigi Callisto² (2023 to date)
¹Department of Civil and Environmental Engineering, University of Firenze, Firenze (Italy)
²Sapienza University of Rome, Rome, Italy
Seismic site response under complex topographic conditions
- Dr. Fabio Rollo (2022 to date)
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

RESEARCH FUNDING

2024 – 2026 Starting a three-year collaboration with the Italian Civil Protection on the Research project *Seismic risk of civil engineering structures on the Italian territory and related cascade effects*
Funding Body: Italian Civil Protection (ReLUIS 2024-2026, WP3)
Expected budget: € 30.000,00
Team: Prof. Paolo Franchin (PI), Prof. Luigi Callisto, **Davide Noè Gorini**, Dr. Andrea Marchi, Dr. Fabrizio Noto, Dr. Giuseppe Lombardi
Expected role in the project: implementation in OpenSees of Thermodynamic Inertial Macroelements with hydro-mechanical coupling (TIM-UPs) for advanced assessment of nonlinear, frequency- and rate-dependent effects related to soil-structure interaction in

- structural analysis; calibration of the TIM-UPs for the considered structural layouts; help in modelling the soil-structure layouts in OpenSees.
- 2024 IS CRA supercomputing research project – research project *HPC-aided optimisation of Tuned Mass Dampers as seismic protection for buildings: from artificial intelligence-based analysis to a novel design criterion*
Funding Body: CINECA (Italian Consortium for High Performance Computing)
Assigned to: **Davide Noè Gorini** (PI), Dr. Corrado Chisari
Objective: use of supercomputing resources for extensive numerical simulations on soil-building systems equipped with Tuned Mass Dampers under seismic and wind excitation
- 2024-2026 Research project: *Improving the resilience of transportation infrastructures: mitigation of the seismic vulnerability of bridges and tunnels*
Funding Body: Sapienza University of Rome
Budget: € 50.000,00
Team: Prof. Luigi Callisto (PI), Prof. Daniela Boldini, Prof. Paolo Franchin, **Davide Noè Gorini**, Dott. Raffaele Laguardia, Dott. Luca Masini, Prof. Sebastiano Rampello, Eng. Giada Caldarini, Dott. Giuseppe Lombardi, Dott. Andrea Marchi
Role in the project: conception, development and implementation of inertia-control seismic resistance bridge abutments and foundations; implementation of optimization genetic algorithms; identification of minimal seismic-risk soil-bridge layouts; improving the resilience of tunnels with the aid of advanced numerical modelling.
- 2021 – 2023 Research project: *Seismic reliability of existing bridges on the Italian territory*
Funding Body: Italian Civil Protection
Team: Prof. Paolo Franchin (PI), Dr. Andrea Marchi, Dr. Fabrizio Noto, **Davide Noè Gorini**
Role in the project: foundations design; calibration of macroelements for simulating frequency-dependent and nonlinear features of soil-abutment and soil-piles interaction in the large-scale seismic assessment of archetype existing bridges; fragility assessment
- 2019 – 2021 Research project: *Seismic reliability of Italian code-conforming bridges*
Funding Body: Italian Civil Protection
Budget: € 30.000,00
Team: Prof. Paolo Franchin (PI), Prof. Luigi Callisto, **Davide Noè Gorini**, Dr. Fabrizio Noto
Role in the project: foundations design; developing multi-axial Thermodynamic Inertial Macroelements (TIMs) for dynamic soil-abutment, soil-piles and soil-caisson interaction in OpenSees; seismic assessment of bridges
- 2020-2022 Research project: *Assessment of seismic damage to large infrastructures based on results of advanced numerical analyses*
Funding Body: Sapienza University of Rome
Budget: € 50.000,00
Team: Prof. Luigi Callisto (PI), Prof. Angelo Amorosi, Prof. Sebastiano Rampello, **Davide Noè Gorini**, Dr. Fabio Rollo, Dr. Luca Masini
Role in the project: advanced numerical modelling for the seismic assessment of bridges and dams; conception and validation of practice-oriented methodologies for the seismic design of integral and girder 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
Budget: € 7.500,00
Assigned to: **Davide Noè Gorini**
Objective: development of a thermodynamic macroelement for bridge abutments
- 2018 IS CRA supercomputing research project – research project *Seismic soil-abutment-superstructure interaction*
Funding Body: CINECA (Italian Consortium for High Performance Computing)
Assigned to: **Davide Noè Gorini**
Objective: use of supercomputing resources for demanding seismic simulations on large soil-abutment-bridge domains

- 2017 Research project *Dynamic soil-abutment-superstructure interaction: phenomenology and design*
Funding Body: Sapienza University of Rome, Italy
Budget: € 2.000,00
Assigned to: **Davide Noè Gorini**
Objective: upgrade of computing resources for highly demanding dynamic computations
- 2016 Research project *Dynamic soil-abutment-superstructure interaction and seismic performance of girder bridges*
Funding Body: Sapienza University of Rome, Italy
Budget: € 2.000,00
Assigned to: **Davide Noè Gorini**
Objective: upgrade of computing resources for highly demanding dynamic computations
- 2015, Feb-Jul Coordinated and Continuitive 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
Assigned to: **Davide Noè Gorini**
Objective: development of a design approach for friction dissipative foundations

CONSULTING ACTIVITY

- 2023, Oct-Dec Consulting activity
Department of Structural Engineering, University of Florence, Italy
Seismic retrofit of a minaret in Herat (Afghanistan)
- 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

COMPUTER SKILLS

Ability to use the following programming languages and software

- C and C++; TCL; PYTHON; MATLAB; VISUAL STUDIO; FORTRAN; MATHEMATICA
- 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; WordPress

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, I am a multi-year user of the supercomputer facilities of CINECA (Italian Consortium for High Performance Computing) and Texas Advanced Computing Center (2019 to date).

CERTIFICATIONS

2023 National Scientific Habilitation to apply for permanent positions as Associate Professor in Italian Universities

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)*

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)

2019 to date Assistant in the activities of the Laboratory of High Performance Computing at the Department of Structural and Geotechnical Engineering, Sapienza University of 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

LANGUAGE

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

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, https://www.researchgate.net/publication/371936338_Seismic_reliability_of_representative_Italian_code-conforming_highway_bridges, doi: 10.13140/RG.2.2.25622.32329
- 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. Gallese, D., **Gorini, D.N.**, and Callisto, L. (2024): *Seismic design of integral abutment bridges using nonlinear static analysis of soil-structure numerical models*. Geotechnique, doi: 10.1680/jgeot.22.00229. IF = 5.8 (2022), SJR = 2.042 (2022), Q1.
- J2. Fierro, T., Ercolessi, S., **Gorini, D.N.**, Fabbrocino, G., and Santucci de Magistris, F. (2024): *Implementation and use of an advanced bounding surface constitutive model in OpenSees*. Computers and Geotechnics, vol. 166, 106030, <https://doi.org/10.1016/j.compgeo.2023.106030>. IF = 5.3 (2022), SJR = 1.787 (2022), Q1.
- J3. 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): *Seismic reliability of Italian code-conforming bridges*. Earthquake Engineering and Structural Dynamics, vol. 52(14), pp. 4442-4465, doi: 10.1002/eqe.3958. IF = 4.5 (2022), SJR = 1.714 (2022), Q1.
- J4. Potini, F., **Gorini, D.N.**, and Conti, R. (2023): *Rigorous lower and upper bounds for the generalized failure loads of pile groups*. Geotechnique Letters, vol. 13(2), pp. 129-135, doi: 10.1680/jgele.22.00138. IF = 2.1 (2022), SJR = 0.952 (2022), Q1.
- J5. **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(5), pp. 793-816, doi: 10.1002/nag.3493. IF = 4.0 (2022), SJR = 1.429 (2022), Q1.
- J6. **Gorini, D.N.** and Callisto, L. (2023): *A multiaxial inertial macroelement for deep foundations*, Computers and Geotechnics, vol. 155, 105222, doi: <https://doi.org/10.1016/j.compgeo.2022.105222>. IF = 5.3 (2022), SJR = 1.787 (2022), Q1.
- J7. 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, vol. 52(1), pp. 164-182, doi: 10.1002/eqe.3755. IF = 4.5, SJR = 1.714, Q1.
- J8. **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. IF = 4.5, SJR = 1.714, Q1.
- J9. **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>. IF = 5.7, SJR = 2.067, Q1.
- J10. **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>. IF = 5.8, SJR = 2.042, Q1.

- J11. **Gorini, D.N.**, Callisto, L. and Whittle A.J. (2021): *Dominant responses of bridge abutments*, Soil Dynamics and Earthquake Engineering, vol. 148, 106723, doi: <https://doi.org/10.1016/j.soildyn.2021.106723>. IF = 4.25, SJR = 1.426, Q1.
- J12. 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. IF = 0.6, SJR = 0.565, Q2.
- J13. **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. IF = 4.012, SJR = 2.032, Q1.
- J14. **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. IF = 5.758, SJR = 2.775, Q1.
- J15. **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. IF = 2.637, SJR = 1.194, Q1.

Fully referred chapters

- C1. **Gorini, D.N.** and Callisto, L. (2023): *Effect of the failure mode on the macro-response of pile groups*. Proceedings of the 10th European Conference on Numerical Methods in Geotechnical Engineering - NUMGE, 26-28 June 2023, London, UK, doi: <https://doi.org/10.53243/NUMGE2023-220>.
- C2. **Gorini, D.N.** and Rollo, F. (2023): *Seismic performance of slopes: do the dynamic features of the landslide matter?*. Proceedings of the 10th European Conference on Numerical Methods in Geotechnical Engineering - NUMGE (2023), 26-28 June 2023, London, UK, doi: <https://doi.org/10.53243/NUMGE2023-238>.
- C3. **Gorini D.N.**, and Callisto L. (2023): *Zero-dimensional seismic design of bridge abutments: a double macroelement approach*. Springer Series in Geomechanics & Geoengineering – Proceedings of the VIII National Conference of the Researchers of Geotechnical Engineering (2023), 5-7 July 2023, Palermo, Italy, doi: 10.1007/978-3-031-34761-0_54.
- C4. Marrazzo, P.R., **Gorini, D.N.**, Nastri, E., and Montuori, R. (2023): *A glance at optimal configurations of large mass Tuned Mass Dampers in soil-structure systems*. Proceedings of the 9th International Conference on Computational Methods in Structural Dynamics and Earthquake Engineering - COMPDYN, 12-14 June 2023, Athens, Greece, vol. 1, pp. 177-184, (Eds. M. Papadrakakis, M. Fragiadakis), ISBN (vol I): 978-618-85072-9-6.
- C5. **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.
- C6. 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.
- C7. **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.
- C8. **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.
- C9. 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, pp. 730-738, doi: 10.1007/978-3-031-11898-2_46.
- C10. **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.
- C11. **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.
- C12. 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.
- C13. 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.
- C14. Clarizia, G., **Gorini, D.N.**, Marrazzo, P., Nastri, E., and Montuori, R. (2023): *A glance at the effectiveness of large mass ratio TMDs in a coupled soil-structure system*, Proceeding of the 19th International Conference of numerical analysis and applied mathematics - ICNAAM 2021, AIP Conference Proceedings 2849, 300011, Rhodes, Greece (20-26 September 2021), <https://doi.org/10.1063/5.0164350>.
- C15. **Gorini, D.N.**, and Callisto, L. (2021): *La risposta dinamica del ponte nella prestazione sismica delle spalle*, In Proceedings of the XXVII National Conference of Geotechnical Engineering, Reggio Calabria, Italy (13-15 July 2021).
- C16. Gallese, D., **Gorini, D.N.**, and Callisto, L. (2021): *Effetti dell'interazione terreno-struttura sul comportamento sismico di ponti integrali a singola campata*, Proceedings of the Annual Meeting of Geotechnical Researchers - IARG2021, ISBN 9788897517153, http://www.gnig.it/IARG2021/Gallese_Domenico.pdf
- C17. **Gorini, D.N.** and Callisto, L. (2020): *A coupled study of soil-abutment-superstructure interaction*, Springer Lecture Notes in Civil Engineering “Geotechnical Research for Land Protection and Development” (CNRIG2019), vol. 40, 565-574, https://doi.org/10.1007/978-3-030-21359-6_60
- C18. **Gorini, D.N.**, Callisto, L. and Whittle A.J. (2019): *Numerical evaluation of the modal characteristics of a bridge abutment*, Proceedings of the 7th International Conference on Computational Methods in Structural Dynamics and Earthquake Engineering (COMPDYN 2019), Crete, Greece, doi: 10.7712/120119.7050.19836
- C19. **Gorini, D.N.**, Whittle, A.J. and Callisto, L. (2019): *Ultimate design capacity of bridge abutments*, Earthquake Geotechnical Engineering for Protection and Development of Environment and Constructions: Proceedings of the 7th International Conference on Earthquake Geotechnical Engineering, (ICEGE 2019), pp. 2682-2689, Rome, Italy, doi: 10.1201/9780429031274
- C20. **Gorini, D.N.** and Chisari, C. (2019): *Effect of soil-structure interaction on seismic performance of Tuned Mass Dampers in buildings*, Earthquake Geotechnical Engineering for Protection and Development of Environment and Constructions: Proceedings of the 7th International Conference on Earthquake Geotechnical Engineering, (ICEGE 2019), pp. 2690-2697, Rome, Italy, DOI: 10.1201/9780429031274

- C21. **Gorini, D.N.** and Callisto, L. (2016): *Predicting the dynamic response of friction dissipative foundations using a modified Newmark model*, Procedia Engineering (CNRIG2016), vol. 158, 2016, pp. 170-175, doi: 10.1016/j.proeng.2016.08.424

Conference papers

- P1. Malik, F., **Gorini, D.N.**, Ricles, J., Al Subaihawi, S., Marullo, T. (2024): *Multi-directional RTHS of a 3 story MRF with nonlinear viscous dampers and soil-structure interaction using neural networks*, Recent advances in hybrid simulation and real-time hybrid simulation - Engineering Mechanics Institute Conference and Probabilistic Mechanics & Reliability Conference (EMI/PMC2024), Palmer House Hotel, Chicago, IL, United States (28-31 May 2024).
- P2. **Gorini, D.N.** (2023): *Soil inertia in the macro-response of geotechnical systems: a thermodynamic perspective*, International Symposium on Numerical Analysis of Geomaterials - Book of Extended Abstracts (NANGE 2023), Organisers: Stan Pietruszczak, Claudio Tamagnini, Kateryna Oliynyk; Assisi, Italy (10-12 May 2023), published by NANGE Committee, ISBN: 9791221033182.
- P3. Lombardi, G., **Gorini, D.N.**, Manelli, A., and Callisto, L. (2023): *Un metodo semplificato per la valutazione del comportamento sismico di una galleria circolare*, XII annual meeting of young geotechnical engineers, Padova, Italy (May 31, June 1 2023).
- P4. **Gorini, D.N.** (2022): *Thinking about seismic-resistant soil-structure systems: from advanced numerical modelling to design methodologies*, 2022 SimCenter Symposium, Texas Advanced Computing Center, Texas, US (4 November 2022).
- P5. **Gorini, D.N.**, Callisto, L., Whittle A.J. and Sessa S. (2019): *An inertial macro-element of abutments for nonlinear analysis of bridges*, Proceedings of OpenSees days Eurasia 2019 - First Eurasian Conference on OpenSees, Editors Asif Usmani, Giorgio Monti and M. Anwar Orabi, ISBN 978-962-367-832-2, Hong Kong (20-21 June 2019).
- P6. **Gorini, D.N.**, Andrew J. Whittle and Callisto, L. (2018): *Stati Limite Ultimi per spalle da ponte*, Proceedings of the Annual Meeting of Geotechnical Researchers - IARG 2018, ISBN 978-88-975170-1-6, Genova, Italy (4-6 July 2018).
- P7. **Gorini, D.N.** and Callisto, L. (2017): *Development of equivalent structural models for the coupled analysis of the dynamic soil-structure interaction*, Proceedings of the XVII Conference ANIDIS "Earthquake Engineering in Italy", ISBN: 9788867418541, Pistoia, Italy (17-21 September 2017).
- P8. **Gorini, D.N.** and Callisto, L. (2017): *Studio dell'interazione dinamica terreno-spalla-sovrastuttura per una spalla da ponte*, Proceedings of the Annual Meeting of Geotechnical Researchers - IARG 2017, ISBN 978-88-99432-30-0, Matera, Italy (5-7 July 2017).
- P9. **Gorini, D.N.** and Callisto, L. (2017): *Study of the dynamic soil-abutment-superstructure interaction for a bridge abutment*, Proceedings of the First European Conference on OpenSees, ISBN 978-972-752-221-7, Porto, Portugal.
- P10. **Gorini, D.N.** and Callisto, L. (2016): *Dynamic soil-structure interaction for a long-span suspension bridge with dissipative foundations*, Proceedings of the 4th International Workshop on "Dynamic Interaction of Soil and Structure (DISS_15)", pp. 289-297, ISBN: 978-88-940114-2-5, Rome, Italy.
- P11. **Gorini, D.N.** and Callisto, L. (2015): *Interazione dinamica terreno-struttura per le fondazioni di un ponte di grande luce*, Proceedings of the Annual Meeting of Geotechnical Researchers - IARG 2015, Cagliari, Italy

Davide Noè Gorini

Rome, 10th April 2024