PERSONAL INFORMATION Domenico Gallipoli

Enterprise	University	EPR
☐ Management Level	☒ Full professor	☐ Research Director and 1st level Technologist / First Researcher and 2nd level Technologist / Principal Investigator
☐ Mid-Management Level	☐ Associate Professor	☐ Level III Researcher and Technologist
☐ Employee / worker level	☐ Researcher and Technologist of IV, V, VI and VII level / Technical collaborator	☐ Researcher and Technologist of IV, V, VI and VII level / Technical collaborator

SSD: Ingegneria Geotecnica ICAR/07

WORK EXPERIENCE

From Jan 2020 to Present

Full Professor of Geotechnical Engineering

Università degli Studi di Genova, Italy - https://unige.it/en

This position is currently held within the “Dipartimento di Ingegneria Civile, Chimica e Ambientale” (DICCA - https://dicca.unige.it). Research activities focus on the development of constitutive models for soils applied to the analysis of landslides and the design of sustainable construction materials. On the teaching side, three courses on “Ground Engineering”, “Rock Mechanics and Groundwater Analysis” and “Fundamentals of Geotechnical Engineering” are delivered at postgraduate and undergraduate levels.

Academic

From Oct 2012 to Dec 2019

Full Professor of Civil Engineering

Université de Pau et des Pays de l'Adour, France - https://www.univ-pau.fr/en/home.html

This position was held within the Engineering School "Institut Supérieur Aquitain du Bâtiment et des Travaux Publics" (ISABTP - http://isabtp.univ-pau.fr). Research activities focused on sustainable construction, the design of novel geotechnical sensors and the hydro-mechanical properties of multiphase porous media. Teaching was delivered at both postgraduate and undergraduate levels in the courses “Advanced Foundations Design”, “Hydrogeology”, “Design of Superficial Foundations”, “Design of Deep Foundations”, “Solid Mechanics”, “Retaining Structures for Ports” and “Risk Management in Construction”.

Academic

From Mar 2007 to Sep 2012

Reader (2010-2012) and Senior Lecturer (2007-2010) of Civil Engineering

University of Glasgow, Scotland - https://www.gla.ac.uk/

This position was held within the School of Engineering (http://www.glasgow.ac.uk/engineering). Research focused on the development of soil testing equipment, constitutive modelling of multiphase porous media, fracturing of geomaterials and the numerical analysis of slope and foundation instabilities. Teaching activities took place at both postgraduate and undergraduate levels in the courses “Mathematics for Engineers”, “Ground Engineering” and “Hydrogeology and Rock Mechanics”.

Academic

From Sep 2002 to Feb 2007

Lecturer of Civil Engineering

Durham University, England - https://www.durham.ac.uk/homepage/

This position was held within the School of Engineering (http://www.dur.ac.uk/engineering). On the research side, activities focused on experimental soil mechanics, the design of soil water sensors and the application of artificial intelligence to the interpretation of field tests. The position also involved teaching at both postgraduate and undergraduate levels in the courses “Hydrology and the Environment”, “Coastal Engineering” and “Unsaturated Soil Mechanics”.

Academic

From May 2000 to Jun 2002

“Marie Curie” Individual Research Fellow

Universitat Politécnica de Catalunya, Spain - https://www.upc.edu/en?set_language=en

This “Marie Curie” Individual Fellowship of the European Commission funded a two-years research position within the “Departamento de Ingeniería del Terreno, Cartográfica y Geofísica” (https://www.camins.upc.edu). The research focused on the development of a constitutive model for soils accounting for the influence of degree of saturation on mechanical behaviour.

Academic

EDUCATION AND TRAINING

From Oct 1996 to Apr 2000

PhD in Civil Engineering

EQF level 8

University of Glasgow, Scotland - https://www.gla.ac.uk/

This doctoral research programme focused on: (a) constitutive modelling of unsaturated soils, (b) application of the Finite Element method to the interpretation of field tests in geotechnical engineering. Title of the thesis: "Constitutive and numerical modelling of unsaturated soils".

From Oct 1990 to Jul 1996

Master in Civil Engineering (Laurea in Ingegneria Civile)

EQF level 7

Università di Napoli Federico II, Italy - https://www.unina.it/en_GB/home

This 5-years course of study provided theoretical and applicative knowledge in the area of construction and land management (final mark of 110/110 summa cum laude). The last five months (Feb 1996 – June 1996) were spent at the University of Glasgow (Scotland) as an EU-funded Erasmus exchange student to undertake research on landslides as part of the final dissertation.

PERSONAL SKILLS

Mother tongue: Italian

Other languages: English (fluent), French (fluent), Spanish (fluent)

Academic management

I have contributed to the academic management of all academic institutions where I have worked. For example, at the Università di Genova in Italy, I am an elected member of the management committee (Giunta) of the Department of Civil, Chemical and Environmental Engineering and a member of the PhD curriculum committee. At the Université de Pau et des Pays de l'Adour in France, I was an elected member of the Committee of the Institute of Applied Research. In the UK, I was head of the engineering PhD programme at the University of Glasgow and chair of the Board of Examiners for the Master in Geo-engineering at the University of Durham.

I have been PhD examiner at the following 17 universities: Imperial College (UK), Trinity College (Ireland), University of New South Wales (Australia), Universidad de los Andes (Colombia), Queen’s University (UK), Durham University (UK), University of Strathclyde (UK), Universidad de Castilla-La Mancha (Spain), Norwegian University of Science and Technology (Norway), Université du Havre (France), École Nationale des Travaux Publics de l'Etat (France), École Centrale de Lyon (France), Université de Bordeaux (France), Université de Montpellier (France), Université de Pau et des Pays de l'Adour (France), Università di Napoli Federico II (Italy), Universite Savoie Mont Blanc (France).

I have been reviewer of research grant applications and project evaluator for the following 13 public institutions: European Research Council ERC (Starting Grant), European Commission (Marie Skłodowska-Curie Individual Fellowships), Organisation for Scientific Research NWO (Netherlands), Engineering and Physical Sciences Research Council EPSRC (UK), Leverhulme Trust (UK), National Research Agency ANR (France), Ministry of Education, University and Research MIUR (Italy),

Funding Agency for Science and Technology FCT (Portugal), Science Foundation GAČR (Czech Republic), Research Grants Council RGC (Hong Kong), Research Promotion Foundation RPF (Cyprus), National Science Centre NCN (Poland), Latvian Council of Science LCS (Latvia).

I have been a member of the accreditation panel of the Andalusian Agency of Knowledge DEVA-AAC (Spain), a member of the evaluation panel of the Faculty of Engineering at the University of Strathclyde (UK) and have reviewed technical reports about underground nuclear waste disposal for the firm B+Tech Oy (Finland).

Technology Transfer

From 2014 to 2016, I was seconded full-time for a total of 21 months to the following three companies in Germany, Austria and Italy:

- UMS GmbH (METER GROUP Inc), Germany → from Feb to Jul 2014 and from Feb to Jul 2016
- PESSL GmbH, Austria → from Feb to Jul 2015
- TECNOPENTA Srl, Italy → Aug 2014, Aug 2015, Aug 2016

These secondments aimed to transfer knowledge from academia to industry about the design of networked systems for monitoring capillary water in soils with potential application to agriculture and geotechnical engineering. The secondments took place within the framework of the "Marie Curie" Industry-Academia Partnership and Pathways network "Monitoring systems to Assess Geotechnical Infrastructure subjected to Climatic hazards" (https://cordis.europa.eu/project/id/324426) funded by the European Commission.

WORK ACTIVITIES

Main projects

I have been involved, as either coordinator or partner, in the following international research networks:

- RILEM TECHNICAL COMMITTEE ON TESTING AND CHARACTERIZATION OF EARTH-BASED BUILDING MATERIALS AND ELEMENTS (RILEM TC 274 – 2016-2021)
  This international technical committee gathered 32 members from different academic institutions to define standard testing procedures for assessing the mechanical, thermal and hygroscopic performance of stabilized and unstabilized earth as a construction material.
- EZPONDA PROJECT (EUROPEAN REGIONAL DEVELOPMENT FUND – 2019-2021)
  Ezponda (meaning "cliff" in Basque) is a project aimed to the study of the mechanical and chemical parameters governing erosion of the Atlantic coast of the French Pyrenees (Basque Country region).
- TERRE PROJECT (MARIE CURIE INNOVATIVE TRAINING NETWORK "ITN" – 2015-2019)
  "Training Engineers and Researchers to Rethink geotechnical Engineering for a low carbon future" (TERRE) was a network of 11 academic and 3 industrial partners collaborating on an Europe-wide PhD programme about carbon-efficient geotechnical design.
- MAGIC PROJECT (MARIE CURIE INDUSTRY-ACADEMIA PARTNERSHIPS AND PATHWAYS NETWORK "IAPP" – 2013-2016)
  "Monitoring systems to Assess Geotechnical Infrastructure subjected to Climatic hazards" (MAGIC) was a network of 3 academic and 4 industrial partners working on real-time monitoring systems for geotechnical structures exposed to climatic hazards.
- MUSE PROJECT (MARIE CURIE RESEARCH AND TRAINING NETWORK "RTN" – 2004-2008)
  "Mechanics of Unsaturated Soils for Engineering" (MUSE) was a network of 6 academic and 5 industrial partners working on an extensive programme of cooperative research from laboratory testing to numerical modelling and field applications in the area of unsaturated soil mechanics.

Tutoring activities

I have supervised 13 PhD students including 11 graduated and 2 in progress. Among the 11 graduated ones, 7 hold permanent posts in universities in China, Finland, Hong Kong, Italy, Iraq, Malaysia and the United Kingdom, 2 hold fixed-term research posts in France and the United Kingdom and 2 are senior engineers in multinational companies in Norway and the United Kingdom.

I have supervised 8 postdoctoral researchers including 7 completed and 2 in progress. Among the 7 completed ones, 4 hold permanent academic posts at universities in Bolivia, China, Italy and the United Kingdom, 2 hold permanent posts in a governmental research agency in Italy and 1 is a senior engineer in a multinational company in France.

Awards

I have held the following honorary and visiting academic positions:

- 2012–2017 Honorary Senior Research Fellow, University of Glasgow (UK)
- 2008–2009 Visiting Lecturer in Civil Engineering, University of Strathclyde (UK)
- 2004 Visiting Research Fellow, Universitat Politécnica de Catalunya (Spain)
- 1999–2000 Italian National Research Council (CNR) Fellow, University of Glasgow (UK)

Editorial activity

I have edited 3 books (https://doi.org/10.1007/978-3-030-83297-1 , http://dx.doi.org/10.1680/geot.2011 , https://doi.org/10.1201/9780203884430)

I have been a member of the Editorial Board of the international journal Géotechnique (2006-2009) and I have been guest editor of 2 special issues of the same journal in 2011 (https://www.icevirtuallibrary.com/toc/jgeot/61/4 , https://www.icevirtuallibrary.com/toc/jgeot/61/5)

I have chaired and organised the following international conferences and scientific meetings:

- 2017 Chair of the International School on Recent Trends on the Ecoconstruction of Buildings, Université de Pau et des Pays de l'Adour, Anglet (France) ~ 70 delegates from 8 countries in Europe and Africa
- 2016 Chair of the Symposium on Soil-based Concrete and Raw Earth Construction during the Engineering Mechanics Institute International Conference, Université de Lorraine, Metz (France) ~ 30 delegates from francophone countries
- 2015 Co-organizer of 33èmes Rencontres Universitaires de Génie Civil RUGC15, Université de Pau et des Pays de l'Adour, Bayonne (France) ~ 225 delegates from francophone countries
- 2011 Chair of Géotechnique Symposium in Print on Partial Saturation in Compacted Soils, Institution of Civil Engineers, London (UK) ~ 70 delegates from 20 countries in Europe and Asia
- 2008 Chair of 1st European Conference on Unsaturated Soils E-UNSAT08, Durham (UK) ~ 155 delegates from 29 countries worldwide

I have been a member of the scientific board of the following 18 international conferences: 1st Int. RILEM Conf. on Earthen Construction (France, 2022), 3rd Pan-Am. Conf. Unsaturated Soils (Brazil, 2021), 38th Renc. Univ. Génie Civil (Morocco, 2020), Int. Conf. Diver Approaches Sustainable Constructions (Vietnam, 2020), 4th Eur. Conf. Unsaturated Soils (Portugal, 2020), 2eme Conf. Int. Francoph. Nouveaux Matériaux et Durabilité (Belgium, 2018), Engin. Mech. Inst. Int. Conf. (France, 2016), 3rd Eur. Conf. Unsaturated Soils (France, 2016), 34th Renc. Univ. Génie Civil (Belgium, 2016), 1st Int. Conf. on Rammed Earth Construction (Australia, 2015), 6th Int. Conf. Unsaturated Soils (Australia, 2014), 1st Pan-Am. Conf. Unsaturated Soils (Colombia, 2013), 2nd Eur.Conf. Unsaturated Soils (Italy, 2012), 5th Int. Conf. Unsaturated Soils (Spain, 2010), 4th Asian-Pacific Conf. Unsaturated Soils (Australia, 2009), 2nd Int. Conf. Long Term Behaviour of Dams (Austria, 2009), Géotechnique Symp. in Print Thermal Behaviour of the Ground (UK, 2009), 1st Int. Conf. Long Time Effects and Seepage Behaviour of Dams (China, 2008).

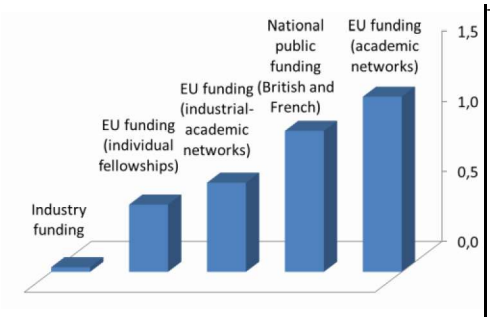
I have reviewed articles for 21 international journals.

Invited presentations

I have delivered:

- 14 keynote/invited talks at international conferences/symposia
- 10 invited seminars at different universities in Australia, Brazil, China, Colombia, France and the UK
- 6 courses at doctoral and summer schools in France, Italy and Switzerland
- 9 session chairs at international conferences/symposia
- 70+ oral presentations in conferences

Grants



Funding income in M€

Total research income of about 3.4M€:

- 1 "Marie Curie" RTN Network (Network Coordinator)
- 1 "Marie Curie" IAPP Network (Scientist in Charge)
- 1 "Marie Curie" ITN Network (Scientist in Charge)
- 1 "Marie Curie" IEF Fellowship (Scientist in Charge)
- 1 "Marie Curie" IIF Fellowship (Scientist in Charge)
- 1 "Marie Curie" IR Fellowship (Fellow)
- 5 British publicly funded projects (4 as Principal Investigator and 1 as Co-Investigator)
- 4 French publicly funded project (Principal Investigator)
- 1 industry funded projects (Principal Investigator)

ADDITIONAL INFORMATION

Publications

- Total number of citations (Scopus): 2698
- H index (Scopus): 26
- Total number of articles in peer-reviewed journals (Scopus): 78
- Total number of articles in peer-reviewed conference proceedings (Scopus): 47
- Total number of chapters in peer-reviewed books (Scopus): 4
- Total number of guest editorships of journal issues or books (Scopus): 4

Selection of ten scientific articles from the last two years:

1. D. Bianchi, **D. Gallipoli**, R. Bovolenta, M. Leoni (in press). Analysis of unsaturated seepage in infinite slopes by means of horizontal ground infiltration models. Géotechnique - https://doi.org/10.1680/jgeot.22.00042
2. H. Wang, Q. Dong, R. de La Vaissière, M.N. Vu, C. La Borderie, **D. Gallipoli**, H. Sun (in press). Investigation of hydro-mechanical behaviour of excavation induced damage zone of Callovo-Oxfordian claystone: numerical modeling and in-situ experiment. Rock Mechanics and Rock Engineering - https://doi.org/10.1007/s00603-022-02938-0
3. A.W. Bruno, **D. Gallipoli**, C. Perlot (2022). Effect of freezing-thawing cycles on the physical and mechanical properties of fired and unfired earth bricks. Journal of Building Engineering, 52: 104501 - https://doi.org/10.1016/j.jobe.2022.104501
4. A. Cuccurullo, **D. Gallipoli**, A.W. Bruno, C. Augarde, P. Hughes, C. La Borderie (2022). Earth stabilisation via carbonate precipitation by plant-derived urease for building applications. Geomechanics for Energy and the Environment, 30: 100230 - https://doi.org/10.1016/j.gete.2020.100230
5. **D. Gallipoli**, A.W. Bruno (2022). A methodology for the formulation of water retention models in deformable soils. Acta Geotechnica, 17: 819–835 - https://doi.org/10.1007/s11440-021-01271-0
6. S. Muguda, P.N. Hughes, C.E. Augarde, C. Perlot, A.W. Bruno, **D. Gallipoli** (2022). Cross-linking of biopolymers for stabilizing earthen construction materials. Building Research & Information, 50(5): 502-514 - https://doi.org/10.1080/09613218.2021.2001304
7. M. Biglari, I. Ashayeri, **D. Gallipoli**, S. Moradpour (2021). A unified small-strain shear stiffness model for saturated and unsaturated soils. Computers and Geotechnics, 136: 104241 - https://doi.org/10.1016/j.compgeo.2021.104241
8. G. De la Morena, V. Navarro, L. Asensio, **D. Gallipoli** (2021). A water retention model accounting for changes of void ratio in double porosity clays. Acta Geotechnica, 16: 2775–2790 - https://doi.org/10.1007/s11440-020-01126-0
9. J. Mendes, **D. Gallipoli** (2020). Comparison of high capacity tensiometer designs for long-term suction measurements. Physics and Chemistry of the Earth, Parts A/B/C, 115: 102831 - https://doi.org/10.1016/j.pce.2019.102831
10. A.W. Bruno, **D. Gallipoli**, M. Rouainia, M. Lloret-Cabot (2020). A bounding surface mechanical model for unsaturated cemented soils under isotropic stresses. Computers and Geotechnics, 125: 103673 - https://doi.org/10.1016/j.compgeo.2020.103673