

# CURRICULUM VITAE

## PERSONAL INFORMATION

Surname/name	<b>COSENTINI RENATO MARIA</b>
Current position	<b>ASSOCIATE PROFESSOR</b>
University	<b>POLITECNICO DI TORINO</b>
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## WORK AND TEACHING EXPERIENCE

### **FROM 28 / 12 / 2021- TO TODAY**

Department of Structural, Geotechnical and Building Engineering – Politecnico di Torino  
Associate Professor (legge 240/2010)  
SSC 08/01 – Geotechnics; SSD – ICAR/07 Geotechnics

### **FROM 28 / 12 / 2018 TO 28/12/2021**

Department of Structural, Geotechnical and Building Engineering – Politecnico di Torino  
Fixed-term assistant professor (art. 24, comma 3, lettera b) della legge 240/2010)  
SSC 08/01 – Geotechnics; SSD – ICAR/07 Geotechnics

### **FROM 01 / 03 / 2018 TO 27 / 12 / 2018**

Department of Structural, Geotechnical and Building Engineering – Politecnico di Torino  
Fixed-term assistant professor (art. 24, comma 3, lettera a) della legge 240/2010)  
SSC 08/01 – Geotechnics; SSD – ICAR/07 Geotechnics

### **FROM 01 / 10 / 2017 TO 30 / 09 / 2018**

Department of Civil Engineering and Architecture University of Pavia  
Professor on contract (SSC 08/01 – Geotechnics; SSD – ICAR/07 Geotechnics)  
a) Foundation and Earth retaining structures (in Italian) (6 CFU) – Master's degree in Civil Engineering  
b) Geotechnical Engineering (9 CFU) – Master's degree in Architecture Engineering.  
c) Geotechnics (in Italian) (2 CFU) - Master's degree in Civil Engineering

### **FROM 01 / 10 / 2016 TO 30 / 09 / 2017**

Department of Civil Engineering and Architecture University of Pavia  
Professor on contract (SSC 08/01 – Geotechnics; SSD – ICAR/07 Geotechnics)  
a) Foundation and Earth retaining structures (in Italian) (6 CFU) – Master's degree in Civil Engineering  
b) Geotechnical Engineering (9 CFU) – Master's degree in Architecture Engineering.

### **FROM 27 / 02 / 2017 TO 26 / 02 / 2018**

Department of Civil Engineering and Architecture University of Pavia  
Contract of "Prestazione d'opera occasionale"  
Research activities on soil liquefaction

### **ACADEMIC YEAR 2016-2017**

Department of Civil Engineering and Architecture University of Pavia  
Didactic tutor of GEOTECHNICS (in Italian) (Lecturer prof. C.G. LAI)  
Tutor responsible for course exercises

**FROM 16 / 11 / 2016 TO 15 / 02 / 2017**

Department of Civil Engineering and Architecture University of Pavia  
Contract of "Prestazione d'opera occasionale"  
Research activities on seismic geotechnical engineering

**FROM 01 / 10 / 2015 TO 30 / 09 / 2016**

Department of Civil Engineering and Architecture University of Pavia  
Professor on contract (SSC 08/01 – Geotechnics; SSD – ICAR/07 Geotechnics)  
Foundation and Earth retaining structures (in Italian) (6 CFU) – Master's degree in Civil Engineering

**ACADEMIC YEAR 2015 - 2016**

Department of Civil Engineering and Architecture University of Pavia  
Tutor of GEOTECHNICS (in Italian) e GEOTECHNICAL ENGINEERING (Lecturer prof. C.G. LAI)  
Tutor responsible for course exercises

**FROM 23 / 09 / 2015 TO 22 / 09 / 2016**

Department of Civil Engineering and Architecture University of Pavia  
Contract of "Collaborazione coordinata a progetto"  
Research activities: "Non-linear site seismic response analyses using advanced constitutive models and effective stresses aimed at highlighting the occurrence of co-seismic instability phenomena in saturated soils"

**FROM 01 / 09 / 2015 TO 30 / 11 / 2015**

Department of Structural, Geotechnical and Building Engineering – Politecnico di Torino  
Contract of "lavoro autonomo di natura coordinata e continuativa"  
Research activity: "Chemo-hydro-mechanical behaviour of saturated and unsaturated soils"

**FROM 01 / 08 / 2013 TO 31 / 07 / 2015**

Department of Structural, Geotechnical and Building Engineering – Politecnico di Torino  
Assistant research fellowship (art. 22, legge 240/2010)  
SSC 08/01 – Geotechnics; SSD – ICAR/07 Geotechnics  
Study and laboratory tests as part of the research topic 'Chemo-hydro-mechanical behaviour of saturated and unsaturated soils'.

**FROM 01 / 07 / 2009 TO 30 / 06 / 2013**

Department of Structural, Geotechnical and Building Engineering – Politecnico di Torino  
Assistant research fellowship (art. 51, legge 449/1997)  
SSC 08/01 – Geotechnics; SSD – ICAR/07 Geotechnics  
Study within the research topic 'Data integration for geo-mechanical characterisation at great depth'.

**FROM 01 / 01 / 2009 TO 30 / 06 / 2009**

Department of Structural and Geotechnical Engineering – Politecnico di Torino  
Assistant research fellowship (art. 51, legge 449/1997)  
SSC 08/01 – Geotechnics; SSD – ICAR/07 Geotechnics  
Research activities : "Study and laboratory tests as part of the research topic 'Experimental characterisation of the mechanical behaviour of pyroclastic soils' (PRIN 2007 - analysis of the stability conditions of natural slopes in the presence of seismic actions using simplified methods and experimental characterisation of the mechanical behaviour of pyroclastic soils)"

**FROM 03 / 03 / 2008 TO 01 / 01 / 2009**

Department of Soil Defence University of Calabria and Department of Structural and Geotechnical Engineering – Politecnico di Torino  
Fellowship for internships (Integrated programme of Voucher e fellowship for Higher Education – POR Calabria 2000-2006)

Study and laboratory tests as part of the research topic "Theoretical and experimental analysis of seismic wave propagation for the physical-mechanical characterisation of soils"

**ACADEMIC YEARS 2012 – 2013 / 2011 – 2012 / 2010 – 2011 / 2009 – 2010**

Department of Structural and Geotechnical Engineering – Politecnico di Torino

Tutor of GEOTECHNICS (in Italian) (E-learning programme)

Academic tutor in charge of didactic counselling of students and member of examination boards

**ACADEMIC YEAR 2010 – 2011**

Department of Structural and Geotechnical Engineering – Politecnico di Torino

Teaching assistant of SOIL DYNAMICS (in Italian) (Lecturer prof. S. FOTI)

Lecture on soil liquefaction

**ACADEMIC YEAR 2009 – 2010**

Department of Structural and Geotechnical Engineering – Politecnico di Torino

Teaching assistant of MECHANICS OF POROUS MEDIA (in Italian) (Lecturers prof. R. LANCELLOTTA and L. PREZIOSI)

Seminar on the propagation of elastic waves in porous media

**ACADEMIC YEAR 2006– 2007**

Department of Soil Defence University of Calabria

Tutor of DESIGN OF GEOTECHNICAL WORKS (in Italian) (Lecturer prof. E. CONTE)

Tutor responsible for course exercises

**ACADEMIC YEAR 2005– 2006**

Department of Soil Defence University of Calabria

Tutor of FOUNDATIONS (in Italian) (Lecturer prof. E. CONTE)

Tutor responsible for course exercises

**ACADEMIC YEAR 2003– 2004**

Department of Soil Defence University of Calabria

Tutor of FOUNDATIONS (in Italian) and EARTH RETAINING STRUCTURES (in Italian) (Lecturer prof. E. CONTE)

Tutor responsible for course exercises

**EDUCATION AND TRAINING**

**22 / 02 / 2007**

University "Mediterranea" of Reggio Calabria

Ph.D. Thesis "Elastic waves propagation in unsaturated porous media" (in Italian)

Supervisor: prof. E. Conte

PhD programme in Geotechnical Engineering

**24 / 07 / 2003**

University of Calabria – Arcavacata di Rende (CS) - Italy

Master's degree (V.O) cum laude

Civil-Geotechnical Engineering

**S.Y. 1995 - 1996**

Technical Commercial and Surveyor Institute "E. Majorana" - Castrolibero (CS) - Italy

Technical school-leaving certificate with a mark of 60 / 60

Surveyor

**MOTHER TONGUE**

**OTHER LANGUAGE**

Reading

Writing

**ITALIAN**

**ENGLISH**

GOOD

GOOD

Speaking	GOOD
<b>SOCIAL SKILLS AND COMPETENCIES</b>	Excellent collaboration skills in national and international scientific research groups gained through participation in various national and international research projects, activities, contracts and conventions and national/European/international research projects.
<b>TECHNICAL SKILLS AND COMPETENCIES</b>	<p>Excellent knowledge of the equipment and test procedures for the physical-mechanical characterisation of soils in saturated and unsaturated conditions.</p> <p>Excellent knowledge of the main techniques: for the processing of experimental data; for the reconstruction of stratigraphic profiles and geotechnical characterisation of soils, and the analytical processing of data.</p> <p>Excellent ability to implement, according to the syntaxes of various programming languages, calculation routines for the automation of calculation and data management.</p> <p>Good knowledge of:</p> <ul style="list-style-type: none"> <li>- Operating systems: Microsoft Windows;</li> <li>- Office technical applications: Excel, Word, Access, PowerPoint; Acrobat;</li> <li>- Programming languages: Visual_basic for office programme macros;</li> <li>- Professional software: Autocad and ArchiCAD (technical drawing), Edis 2000 7.00 (analysis and design of reinforced concrete buildings), GIS applications (ArcGIS 10, with its complementary modules, QGIS, Surfer), Plaxis 2/3D (finite element programme for geotechnical analysis), FLAC 2/3D (finite difference programme for geotechnical analysis), Matlab.</li> </ul>
<b>ADDITIONAL INFORMATION AFFILIATION</b>	<ul style="list-style-type: none"> <li>• Member of the Register of Engineers of Cosenza n° 3833 Since 2004 (April)</li> <li>• Member of the National Group for the Coordination of Geotechnical Engineering Studies (GNIG)</li> <li>• Member of the Italian Geotechnical Association (AGI)</li> <li>• Member of ISSMGE (International Society for Soil Mechanics and Geotechnical Engineering)</li> </ul>
<b>PUBLICATIONS</b>	Author of over 50 scientific publications, including 20 in international and national journals, and 3 book chapters.
<b>PARTICIPATION IN NATIONAL AND INTERNATIONAL RESEARCH GROUPS OR PROJECTS FUNDED BY COMPETITIVE CALLS OR COMMERCIAL CONTRACTS OR CONDUCTED BASED ON NON-COMMERCIAL COLLABORATIVE AGREEMENTS</b>	<p>Active participation in the following projects and consultancy contracts</p> <ul style="list-style-type: none"> <li>• 2023 Research contract Politecnico di Torino – SNAM Rete Gas SpA “Support activities for the completion of the design of the Sulmona compressor station”. Scientific director: Prof. S. Mauro</li> <li>• 2023-2024 Research contract Politecnico di Torino – ENI SpA “Experimental study of the fatigue strength of cap rocks in reservoirs used for hydrogen storage”. Scientific director: Prof. S. Foti</li> <li>• 2023 Research agreement Torino – ANDRA (Agence Nationale pour la gestion des Déchets Radioactifs) “Cyclic characterization of clay materials in the context of a radioactive waste underground repository”. Scientific director: Prof. S. Foti</li> <li>• 2018-2020 Project funded by the European Commission (Interreg V ALCOTRA Italia-Francia): “RESBA – REsilience on SBArraments” (2017-2020).</li> <li>• 2016 European project (Horizon 2020): “LIQUEFACT - Assessment and mitigation of liquefaction potential across Europe: a holistic approach to protect structures/infrastructures for improved resilience to earthquake-induced liquefaction disasters” (2016-2019) Scientific director: prof. Carlo G. Lai</li> <li>• 2016 Research project Reluis DPC-ReLUIIS 2014-2018 <i>Special project</i> RS2 – Earthquake simulation: near-source effects. Scientific director: prof. Carlo G. Lai.</li> <li>• 2015 Research activity of Department of Structural, Geotechnical and Building Engineering of Politecnico di Torino and Nagoya City University: Identification of installation points in Modena Cathedral for instrumentation consisting of a network of 16 accelerometers and seismic monitoring of the structure’. Scientific directors: proff. T. Okai, R. Lancellotta e D. Sabia.</li> <li>• 2014 Research agreement Politecnico di Torino – B.A. Service s.p.a. “Study of the effects of a possible partial demolition of the car park located in Modena viale Trento Trieste 33”. Scientific director: prof. R. Lancellotta.</li> </ul>

- 2013-2015 National research project funded by MIUR – PRIN project “PRIN 2010 - 2011 research project - Landslide risk mitigation through sustainable interventions”. Scientific director: prof. M. Manassero.
- 2012-2013 Research activity of Department of Structural, Geotechnical and Building Engineering of Politecnico di Torino and Nagoya City University: “Seismic monitoring of the Torre Ghirlandina”. Scientific directors: proff. T. Okai , R. Lancellotta e D. Sabia.
- 2011-2013 Research contract Politecnico di Torino – Uretex s.r.l. “Theoretical/Experimental Study on the Interaction of Polyurethane Resin Injections with Treated Soils and Characterisation of Consolidation Interventions”. Scientific director: prof. M. Manassero.
- 2012 Research agreement Politecnico di Torino – Interregional Agency for the PO River. “Geotechnical characterisation, through laboratory tests, of the soils constituting the body and foundation of the right bank of the river Po between the municipalities of Ro (FE) e Boretto (RE)”. Scientific director: prof. D. Costanzo
- 2012 Research agreement Politecnico di Torino – Regional Directorate for Cultural and Landscape Heritage of Emilia-Romagna. “Performance of laboratory tests for the geotechnical characterisation of the foundation soils of the Conventual Complex of the Osservanza in Bologna”. Scientific director: prof. R. Lancellotta
- 2011-2012 Contract “Collaborazione Coordinata e Continuativa” Department of Structural and Geotechnical Engineering – Politecnico di Torino “Creation of a geomechanical database”.
- 2009 National research project funded by MIUR – PRIN project “PRIN 2007 – Analysis of the stability conditions of natural slopes in the presence of seismic actions using simplified methods and experimental characterisation of the mechanical behaviour of pyroclastic soils”. Scientific director: prof. R. Lancellotta.
- 2010-2013 Research project Reluis: DPC-ReLUIS 2010-2013 geotechnics: MT2 (shallow and pile foundations). Politecnico di Torino. Scientific director: prof. R. Lancellotta
- 2009-2010 Research agreement Politecnico – SIS “Slope movements of the cover formations of the Brine Field of Timpa del Salto in Belvedere Spinello (KR)”. Scientific director: prof. R. Lancellotta
- 2009-2010 European project “Italy-Spain Integrated Action Programme: Dynamic and electrical tomography techniques for characterising and monitoring the hydro-chemo-mechanical behaviour of inhomogeneous saturated and unsaturated soils under transient conditions”. Italiana Scientific director: prof. R. Lancellotta.
- 2009-2010 Research agreement Politecnico – ENI: “R&D MG (Multiscale Geomechanics): Integrated characterisation of the deformation response of deposit and overburden rocks”. Scientific directors: proff. S. Foti and G. Musso
- 2008-2012 European project “SOILCAM-Soil contamination: Advanced Integrated Characterization and Time-Lapse Monitoring”. Scientific director: prof. S. Foti

**SCIENTIFIC RESPONSIBILITY FOR NATIONAL AND INTERNATIONAL RESEARCH PROJECTS FUNDED BY COMPETITIVE CALLS**

- 2023-2025 National research project funded by MUR – “PRIN 2022 – INSPIRED SOULS - INnovative and Sustainable Stabilization Processes Involving REcycleD SOils and Used materialS”.

**SCIENTIFIC RESPONSIBILITY FOR NATIONAL AND INTERNATIONAL RESEARCH PROJECTS FUNDED BY COMMERCIAL CONTRACTS**

- 2023-2024 Research agreement Politecnico di Torino Città Metropolitana di Torino “Monitoring during the implementation of mitigation works on the road (S.P. 23 KM 95+500) affected by a significant slope movement in the municipality of Sestriere”. Scientific directors: proff. R.M. Cosentini and S. Foti
- 2022-2024 Research contract Politecnico di Torino – ENI SpA “Experimental study and theoretical modelling of the chemo-hydro-mechanical behaviour of cap rock material for simulating the effects of CO2 exposure”. Scientific directors: proff. R.M. Cosentini and G. Musso.
- 2021 Research consultancy Politecnico di Torino – soc. Acque del Chiampo SpA “Characterisation of the unsaturated field hydraulic behaviour of sludge from the Arzignano (VI) landfill”. Scientific directors: proff. R.M. Cosentini and G. Musso.

## TRAINING ACTIVITIES

### Attendance at courses/schools/workshops

- October 3<sup>rd</sup> 2016 Workshop on "Assessment and mitigation of liquefaction potential across Europe" – Bologna
- April 19<sup>th</sup> ÷ 23<sup>rd</sup> 2004 course "CONSTITUTIVE LAWS FOR POROUS MATERIALS"- Torino Politecnico di Torino - Coordinators: proff. R. Lancellotta; R. Nova
- June 23<sup>rd</sup> ÷ 25<sup>th</sup> 2004 "INTERNATIONAL WORKSHOP ON UNSATURATED SOILS" Anacapri - Coordinator: prof. C. Mancuso
- September 6<sup>th</sup> ÷ 10<sup>th</sup> 2004 course "SURFACE WAVES IN GEOMECHANICS: DIRECT AND INVERSE MODELLING FOR SOILS AND ROCKS" CISM – Udine  
Coordinators: proff. C. Lai, W. Wilmanski
- March 14<sup>th</sup> ÷ 18<sup>th</sup> 2005 course " SEISMIC WAVE PROPAGATION" ROSEschool, Pavia.  
Coordinators: Proff. E. Faccioli, R. Paolucci
- June 20<sup>th</sup> ÷ 24<sup>th</sup> 2005 course "CONTINUUM THEORIES OF MIXTURES" Roma  
Coordinators: proff. B. D'Elia, K. Wilmanski
- July 04<sup>th</sup> ÷ 06<sup>th</sup> 2006 course "SOILS AND WAVES" Torino – Coordinator: J. C. Santamarina
- July 05<sup>th</sup> ÷ 09<sup>th</sup> 2010 "2nd ALERT Olek Zienkiewicz Course on "MECHANICS OF UNSATURATED GEOMATERIALS" Lausanne (EPFL) - Coordinator: prof. L. Laloui
- April 23<sup>rd</sup> ÷ 27<sup>th</sup> 2012 course "UNSATURATED SOIL MECHANICS" Torino  
Coordinator: prof. E. Alonso
- June 27<sup>th</sup> ÷ 29<sup>th</sup> 2012 course "DARCY LECTURES 2012: (a) TRANSPORT OF VIRUSES IN PARTIALLY SATURATED SOIL AND GROUNDWATER. (b) CAPILLARITY IN POROUS MEDIA, ON MICRO- AND MACRO SCALE, REVISITED" Torino  
Coordinators: proff. M. Hassanizadeh, G. Musso, R. Sethi
- June 04<sup>th</sup> ÷ 06<sup>th</sup> 2014 course "International Course on Geotechnical and Structural Monitoring" Poppi (AR) - Coordinators: prof. J. Dunnycliff, dott. P. Mazzanti

## ORGANISATION OF OR SPEAKER AT INTERNATIONAL AND NATIONAL CONGRESSES AND CONFERENCES

- - Member of the organising committee "XXV Geotechnics Conference of Torino (CGT)" November 8<sup>th</sup> ÷ 9<sup>th</sup> 2018
- 5th International Conference on Environmental Geotechnology, Recycled Waste Materials and Sustainable Engineering (ERGWSE) (Warsaw, July 4<sup>th</sup> ÷ 6<sup>th</sup> 2024)
- 8th International Conference on Earthquake Geotechnical Engineering (ICEGE) (Osaka, May 7<sup>th</sup> ÷ 10<sup>th</sup> 2024)
- XXVII National Geotechnics Conference "Geotechnics for sustainable land development and environmental protection" (Reggio Calabria, July 13<sup>th</sup> ÷ 15<sup>th</sup> 2022)
- 3rd International Symposium on Geotechnical Engineering for the Preservation of Monuments and Historic Site" (Napoli, June 22<sup>nd</sup> ÷ 24<sup>th</sup> 2022)
- 6<sup>th</sup> International Conference on Geotechnical and Geophysical Site Characterization ISC'6 (Budapest, September 26<sup>th</sup> ÷ 29<sup>th</sup> 2021)
- Webinar – Final Project Event ReSba (Resilience on Barriers) (Torino, December 3<sup>rd</sup> ÷ 4<sup>th</sup> 2020)
- 4th European Conference on Unsaturated Soils, E-UNSAT 2020 (Lisboa, October 19<sup>th</sup> ÷ 21<sup>st</sup> 2020)
- Technical Seminar "ReSba Project– Resilience on Barriers "Artificial Barriers in the Italy-France Cross-Border Territory" (Torino, November 27<sup>th</sup> 2019)
- 38° National Conference of the National Group for Solid Earth Geophysics (GNGTS) (Roma, November 12<sup>th</sup> ÷ 14<sup>th</sup> 2019)
- 7th International Conference on Earthquake Geotechnical Engineering (ICEGE) (Rome, June 17<sup>th</sup> ÷ 20<sup>th</sup> 2019)
- Seminar on Seismic Design of Foundations – "Seismic design of earth retaining structures: safety checks of rigid and flexible structures". (Pavia, July 15<sup>th</sup> 2016)
- Conference " Innovative technologies for the construction of high-rise structures " (Torino, April 9<sup>th</sup> 2015)
- Conference " The 5-6 November 1994 flood in Piedmont. Twenty years of activity in geohydrological forecasting and prevention" (Torino, October 28<sup>th</sup> ÷ 29<sup>th</sup> 2014)

- LARAM - Workshop 2014 - Landslide risk mitigation through sustainable interventions. (Salerno, September 10<sup>th</sup> 2014)
- XXIV National Geotechnics Conference " Technological Innovation in Geotechnical Engineering ". (Napoli, June 22<sup>nd</sup> ÷ 24<sup>th</sup> 2011)
- Fifth International Conference on Unsaturated Soils (Barcellona, September 6<sup>th</sup> ÷ 8<sup>th</sup> 2010)

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