

MARIO EDOARDO MANASSERO
Curriculum Vitae

Personal details	Academic address	Professional address
Date of birth: August 2, 1956	Politecnico di Torino	Geotechnical Engineering Ltd.
Place of birth: Piozzo (CN), Italy	Department of Structural, Geotechnical and Building Engineering (DISEG)	Corso Duca degli Abruzzi, 42 10129 Torino, Italy
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UPDATED SUMMARY

Professor of Geotechnical Engineering at Politecnico di Torino since 2002 and Ph.D. at the same university in the 1987.

Chairman of Technical Committee (TC) no. 215 "Environmental Geotechnics" of the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE) (2001-2014) and member of the expert consulting board of the Italian Ministry of the Environment for environmental impact evaluation in the main national projects (2008-2011).

Opening lecturer, invited speaker and general reporter in some of the most important international symposiums and conferences devoted to Environmental Geotechnics.

Author of more than 150 papers, manuals and book chapters, which have been published by leading international journals and scientific publishers.

Geotechnical consultant of the MOSE Project for the protection of the Venice lagoon from "high water" phenomenon (2004-2006), member of the geotechnical design team for the suspension bridge over the Messina Straits (2002-2005), in charge of the geotechnical design team for the reclamation and rehabilitation of Leonardo da Vinci International Airport runway system (Rome) after severe damage, due to the long-term consolidation settlements of the underlying organic clay formations (1996-2000), and geotechnical consultant of the Victoria State Environmental Protection Agency (EPA, Melbourne, Australia) for the preparation of the general solid waste management and landfilling plan and for the review of the landfill design guidelines (1998-2001).

Main research activities devoted to the geotechnical characterisation of soil deposits using in-situ tests, soft soil consolidation, soil improvement and reinforcement methods, containment systems for landfills and polluted subsoils, the mechanical behaviour of municipal and industrial wastes, vacuum extraction of subsoil pollutants, the chemo-physical interaction between pore fluids and the solid skeleton, multiphase coupled flows and associated transport phenomena

EDUCATION

- Ph.D. in Geotechnical Engineering, Politecnico di Torino, 1987. Dissertation Topic: *A new Approach to the Interpretation of Pressuremeter Test in Sand*. Advisor: Prof. M. Jamiolkowski.
- Degree in Civil Engineering, Politecnico di Torino, 1980. Dissertation Topic: *Cavity Expansion in Soils*. Advisor: Prof. M. Jamiolkowski.

ACADEMIC EXPERIENCE

- Full Professor, Politecnico di Torino and head of the Soil Mechanics Laboratory of the Land, Environment and Geo-Engineering Department (since 2002).
- Associate Professor, Politecnico di Torino (1998 - 2002).
- Member of the Scientific Board of the Ph.D. Geotechnical Engineering School of the Politecnico di Torino, (since 2001).
- Visiting Professor at the Politecnico di Torino. Courses on Methods for Soil Improvement and Geotechnical Aspects of Landfill Design and Remedial Works (1993 - 1997).
- Visiting professor at Colorado State University, Fort Collins. Course on Environmental Geotechnics (1995).
- Visiting Professor at Ancona University. Course on Geotechnical Aspects of Landfill Design and Remedial Works (1988 - 1993)

SELECTED SCIENTIFIC AND PROFESSIONAL RECOGNITION

- Member of the expert consulting board of the Italian Ministry of the Environment for the environmental impact evaluation of the main national projects (2008-2011).
- Visiting professor at the Environmental Geotechnics School of Excellence of Ghent University (Belgium) since October 2008.
- Chairman of Technical Committee n. 215 (TC215) *Environmental Geotechnics* of the International Society of Soil Mechanics and Geotechnical Engineering (ISSMGE) (2001-2014).
- Member of the Presidential Board of the Italian Geotechnical Society (AGI) since 1997 and Referent Member for International Relationships since 2003.
- Member of the AGI-UNI-SC7 Italian Committee for the preparation of the National Application Document for Eurocode n. 7 *Geotechnical Design* (CEN) since 1996.
- Member of regional European Technical Committee n. 8 (ETC8) *Geotechnics of Landfills and Remedial Works* of the International Society of Soil Mechanics and Geotechnical Engineering (ISSMGE).
- Best paper award at the *III International Symposium on Pressuremeter Tests (ISP3)*, Oxford, UK, April 1990.

MOST SIGNIFICANT INVITED LECTURES

- Theme Lecture, 7th International Congress on Environmental Geotechnics, Engineers Australia and ISSMGE, Melbourne, Australia, November 2014.
- Panel Lecture, 15th European Conference on Soil Mechanics and Geotechnical Engineering, Hellenic Society for Soil Mechanics and Geotechnical Engineering, Athens, Greece, September 2011.
- Key-Note Lecture, 6th International Congress on Environmental Geotechnics, Indian Geotechnical Society and ISSMGE, New Delhi, India, November 2010.
- Invited Lecture, International Symposium on Geoenvironmental Engineering, Zhejiang University, CISMGE, CIGS, ISSMGE TC215, Hangzhou, China, September 2009.
- Training Lecture on Coupled Transport of Subsoil Contaminants Involving Geosynthetics at the 1st Pan American Congress (GeoAmericas 2008) organized by the International Geosynthetics Society (IGS), Cancun, Mexico, March 2008.
- Discussion Leader Report, Session 1 on Remediation, 5th International Conference on Environmental Geotechnics, British Geotechnical Society and ISSMGE, Cardiff, UK, 2006.
- General Report, 22nd Congress of the Italian Geotechnical Society on Rehabilitation of Existing Structures, Palermo, September, 2004.
- Key-Note Lecture, Specialty Conference GEG 2002 on Underwater Geoenvironmental Issues organized by the Soil Mechanics Laboratory of Ghent University, Belgium and by ISSMGE Technical Committee no. 5 on Environmental Geotechnics, October 2002.
- General Report, 20th Congress of the Italian Geotechnical Society on Field and Laboratory Investigations, Parma, September, 2000.
- Theme Lecture, 1st International Conference on Geotechnical Engineering Education and Training organized by the Romanian Geotechnical Society, Technical University of Bucharest and ISSMGE Technical Committee no. 31, June 2000.
- State of the Art Report, Millennium Conference (GeoEng 2000), International Congress jointly organized by: ISSMGE, ISRM and IAGEA, Melbourne, Australia, November 2000.
- State of the Art Report, 3rd International Conference on Environmental Geotechnics, Portuguese Geotechnical Society and ISSMGE, Lisbon, Portugal, September 1998.
- Discussion Leader Report on Education in Environmental Geotechnics - European Practice. Workshop on Education in Environmental Geotechnics at the International Congress on Environmental Geotechnics, ISSMGE, Lisbon, Portugal, September 1998.
- Opening Lecture, 1st Australia–New Zealand Conference on Environmental Geotechnics (Geoenvironment 97), organized by the Australian Geomechanics Society, the Institution of Engineers of Australia and ISSMGE, Melbourne, November 1997.
- Discussion Leader Report on Pollutant Containment via Passive Barriers, Discussion Session n. 6.1 of 14th International Conference on Soil Mechanics and Foundation Engineering (ICSMFE), Hamburg, September 1997.

- Opening Lecture on Waste Disposal Design at the 9th Young Geotechnical Engineers Conference, Belgian Member Society of ISSMFE, Ghent, September 1995.
- State of the Art Report, 2nd International Conference on Environmental Geotechnics, Japanese Geotechnical Society and ISSMGE, Osaka, Japan, 1996.
- State of the Art Report, GeoEnvironment 2000, American Society of Civil Engineers (ASCE), New Orleans (USA), 1995.
- State of the Art Report on solid waste classification systems, 1st International Conference on Environmental Geotechnics, Canadian Geotechnical Society and ISSMGE, Edmonton, Canada, 1994.
- State of the Art Report on Geotechnical Aspects of Landfill Design. Seminar at Moscow University, March 1993.
- General Report on Pollutant Control at the 4th Session of the International Green '93 Conference on Environmental Geotechnics, Bolton University, UK, July 1993.
- General Report, 3rd Session of the International Conference on Environment and Geotechnics, organized by LCPC, Paris, April 1993.
- State of Art Report on Composite Slurry Walls for Pollutant Migration Control. Seminar at the University of Texas at Austin, April 1991.

SELECTED CONFERENCE ORGANIZATIONS AND SCIENTIFIC BOARDS

- Member of the International Advisory Committee and the Technical Committee of the 7th International Congress on Environmental Geotechnics, Engineers Australia and ISSMGE, Melbourne, Australia, November 2014.
- Chairman of the International Symposium on Coupled Phenomena in Environmental Geotechnics, ISSMGE TC215 and AGI, Torino, Italy, July 2013.
- Member of the Scientific Advisory Committee of the 24rd National Geotechnical Congress, Naples (Italy), June 22-24, 2011.
- Chairman of the Organizing and Scientific Board of the 23rd Edition of Geotechnical Conferences of Turin (CGT), November 23-24, 2011.
- Member of the ISSMGE Conference Advisory Committee of the 6th International Congress on Environmental Geotechnics, Indian Geotechnical Society and ISSMGE, New Delhi, India, November 2010.
- Chairman of the Organizing and Scientific Board of the 22nd Edition of Geotechnical Conferences of Turin (CGT), November 18-19, 2009.
- Organizer of the session on *Geosynthetics for Remediation of Polluted Subsoil*, GeoAmericas 2008, the first Pan American Geosynthetics Conference. Cancun (Mexico), March 2-5, 2008.
- Member of the Organising Committee, member of the International Advisory Committee and Co-Chairman for the International Program, GeoCongress 08, the annual congress of the Geo-Institute on *The Challenge of Sustainability in the Geoenvironment*, New Orleans, Louisiana (USA), March 9-12, 2008.
- Co-Chairman of the Organizing and Scientific Board of the Geotechnical Conferences of Turin (CGT) since 1990 and Chairman of the Organizing and Scientific Board of the 21st Edition, November 27-28, 2007.
- Member of the Scientific Advisory Committee of the 23rd National Geotechnical Congress, Padua (Italy), May 16-18, 2007.

- Organizer and Co-Chairman of the W2 Session on *Liners on Slopes (TC5 special Session)*, 8th International Conference on Geosynthetics, Yokohama (Japan), September 18-22, 2006.
- Member of the ISSMGE Advisory Committee of the 5th International Conference on Environmental Geotechnics (ICEG), British Geotechnical Society and ISSMGE, Cardiff, UK, June, 24-30, 2006.
- Chairman of Technical Session 3a on *Waste Disposal and Management*, 16th International Conference on Soil Mechanics and Geotechnical Engineering, ISSMGE, Osaka (Japan), September 12-16, 2006.
- Member of the Scientific Advisory Committee of the 22nd National Geotechnical Congress, Palermo (Italy), September 22-24, 2004.
- Chairman of Technical Session 2.1 on *Contaminant Transport Modelling*, 13th European Conference on Soil Mechanics and Geotechnical Engineering, Prague, (Czech Republic), August 25-29, 2003
- Member of the Scientific Advisory Committee of the 21st National Geotechnical Congress, Aquila (Italy), September, 2002.
- Member of the ISSMGE Advisory Committee of the 4th International Conference on Environmental Geotechnics (ICEG), the Brazilian Geotechnical Society and ISSMGE, Rio de Janeiro (Brazil), August, 20-24, 2002.
- Member of the Scientific Advisory Committee of EuroGeo 2000, 2nd European Geosynthetic Conference organized by IGS, Bologna (Italy), October 12-16, 2000.
- Member of the Scientific Advisory Board for the International Symposium on *Physical Modelling and Testing in Environmental Geotechnics*, organized by the Network of European Centrifuges for Environmental Geotechnics Research (NECER), La Baule (France), May 2000.
- Member of the Scientific Advisory Board for the organization of the International Congress on *Recent Major Case Histories in Environmental Geotechnics*, organized by the Ecole Polytechnique de Montreal and the Ecole Nationale des Ponts et Chaussées, Paris (France), February, 1996.

EDITORIAL SERVICES (JOURNALS AND PERIODICALS)

- Advisory Board Member of the *Environmental Geotechnics* journal, Institution of Civil Engineers (ICE) Publishing, London, UK (since 2014).
- Editorial Board Member of the *Journal of Geo-engineering Sciences*, IOS Press (since 2013).
- Editorial Board Member of the *Geotechnical and Geological Engineering* journal, Springer Publisher, Dordrecht, The Netherlands (since 2007).
- Editorial Board Member of the *Soils & Rocks International Journal of Geotechnical and Geoenvironmental Engineering*. ABMS-ABGE-SPG Publishers, SP Brazil (Since 2007).
- Paper Reviewer for *Geotechnique*, Thomas Telford Publisher, London, UK.
- Paper Reviewer for the *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE Publisher . ASCE, Reston, USA.
- Paper Reviewer for the *Canadian Geotechnical Journal*, NRC Research Press Publisher, Ottawa Canada.
- Paper Reviewer for *Geotextiles and Geomembranes*, Elsevier Publisher, Amsterdam, The Netherlands.

- Paper Reviewer for *Geosynthetics International*, Thomas Telford Publisher, London, UK.
- Paper Reviewer for *Waste Management*, Elsevier Publisher, Amsterdam, The Netherlands.
- Paper Reviewer for *International Journal for Solids and Structures*, Elsevier Publisher, Amsterdam, The Netherlands.
- Paper Reviewer for *Rivista Italiana di Geotecnica (Italian geotechnical Journal)*, Patron Publisher, Bologna, Italy.

PROFESSIONAL EXPERIENCE

- Owner of Geotechnical Engineering Ltd. (GE) a consulting firm in Turin, Italy (since, 2006).
- Vice-President of Studio Geotecnico Italiano Ltd. (SGI) Milan, the leading Italian Geotechnical Engineering Company (2004-2006).
- Member of the Board of Directors and Technical Director of Studio Geotecnico Italiano Ltd. (SGI), Milan, Italy (1992-2001).
- President and Managing Director of Ingegneria Geotecnica Ltd. (IG), Turin, Italy (1987-1992).
- Partner of IGES Ltd. (Civil Engineering Consultants), Mondovì, Italy (1983-1987).
- Project Engineer, Studio Geotecnico Italiano Ltd. (SGI), Milan, Italy (1981-1983).

PROFESSIONAL AFFILIATIONS

- Chartered Engineer, Turin Register, Italy (since 1981).
- International Society for Soil Mechanics and Geotechnical Engineering (ISSMFE)
- International Society for Rock Mechanics (ISRM)
- Italian Geotechnical Association (AGI)
- International Geosynthetics Society (IGS)
- American Society of Civil Engineers (ASCE)

MOST SIGNIFICANT PROFESSIONAL ASSIGNMENTS

- Geotechnical design of a vertical expansion for the Terni (Italy) landfill. Acciai Speciali Terni S.p.A. (2014).
- Monitoring and stability analysis of the Idro (BS) landslide. Environmental Protection Regional Agency of Lombardia (2013).
- Review of the Tangenziale Esterna Est di Milano (Italy) highway geotechnical design. Concessioni Autostrade Lombarde (CAL) Ltd. (2012-2014).
- Barrier containment performance evaluation of the Sarroch plant cut-off wall. Golder Associates Ltd (2012-2013).
- Review of the Brescia-Bergamo-Milano (Italy) highway geotechnical design. Concessioni Autostrade Lombarde (CAL) Ltd. (2011).
- Design of stabilization measures for the landslide of the Tolentino (Italy) landfill. Cosmari Ltd. (2010).
- Analysis of the environmental and geotechnical safety conditions of the Portoscuso red mud basin (volume 18.000.000 m³). Procura della Repubblica di Cagliari and Comune di Portoscuso (since 2009).

- Design of stabilization measures for the landslide of the Sant'Arcangelo Trimonte (Italy) landfill. Daneco S.p.A. and Italian Civil Defence Department (since 2008).
- Waste settlement monitoring of the Orbassano (Italy) plant. SADI Servizi Industriali S.p.A. (since 2008).
- Semi-permeable confining system and complementary remediation technique design for the polluted subsoil of a coastal oil refinery plant, Falconara (Ancona), Italy. API Ltd. (since 2007).
- Offshore structural fill design (6 hectares of planar extension) for a cement plant construction and related deep foundation design for cement silos (75.000 tons) and clinker deposit (150.000 tons) within the Castellon harbour area, Spain. BuzziUnicem Ltd. (since 2006).
- Peer reviewer of the executive design of a vertical extension (200.000 m³) of an existing industrial waste landfill (5.000.000 m³) at Tullamarine, Melbourne, Australia. Cleanaway Ltd. (2004-2006)
- Trail field design and management for cross contamination assessment due to piling activity within the Porto Marghera industrial area, Venice, Italy. The investigations and studies were promoted and supported by the local Venice Region Government and the National Environmental Ministry (2003-2006).
- Leader of the SGI geotechnical design team of the MOSE Project for the protection of the Venice lagoon from the "high water" phenomenon. Technital Ltd. (2004-2006).
- Reviewer of the executive design of an industrial waste landfill (1.200.000 m³) at Werribee, Melbourne, Australia. Environmental Protection Agency of Victoria State Australia, (2004-2005)
- Member of the SGI geotechnical design team for the Suspension Bridge over the Messina Straits. Messina Straits Ltd. (2002-2005).
- Geotechnical consultant of the Victoria State Environmental Protection Agency (EPA, Melbourne, Australia) for the preparation of the general plan for solid waste management and landfilling and for the review of the landfill design guidelines (1998-2001).
- Leader of the geotechnical design team for the construction of a new harbour in Ashdod (Israel). Technital Ltd. (1998-2000).
- Leader of the geotechnical design team for the reclamation and rehabilitation of the runway system of the Leonardo da Vinci International Airport (Rome) after severe damage due to the long term consolidation settlements of underlying organic clay formations. Aeroporti di Roma Ltd. (1996-2000).
- Leader of the design team for the ILVA steel plant landfill system (5 landfills for a total capacity of 3.000.000.000 m³) Taranto (Italy). (1990-1995).
- Leader of the design team of the first pollutant containment slurry wall built at Cengio, Italy (perimeter of the contaminated area = 3.5 km). ACNA Chimica Organica Ltd. (1989-1994).
- Feasibility studies for an asbestos waste landfill located inside an abandoned mine (10.000.000 m³) at Balangero, Turin. Local Torino Region Government. (1987)
- Leader of the design team of the Barricalla Hazardous waste landfill (600.000 m³). Local Torino region Government, Italy, (1987-1995).
- Feasibility design of an industrial and municipal waste landfill systems for the Crotona (Italy) district area (total capacity 1.000.000 m³). Crotona Municipality (1985-1986).

RESEARCH INTERESTS

- Geotechnical characterisation of soil deposits using in-situ tests.
- Soft soil consolidation.
- Soil improvement and reinforcement methods.
- Compacted clay and composite liner systems for landfills.
- Containment systems for polluted subsoils.
- Mechanical behaviour of industrial wastes.
- Vacuum extraction of subsoil pollutants.
- Chemo-physical interaction between pore fluids and the solid skeleton.
- Multiphase coupled flows and associated transport phenomena.

SELECTED FUNDED RESEARCH PROPOSALS

- *Technical and scientific support for environmental problems that need a high level of scientific expertise.* Financed by: Versalis/ENI S.p.A.
- *Methods and criteria for the design and management of remediation systems for polluted sites.* Financed by: Syndial/ENI S.p.A.
- *Nanomaterials constituted of smectitic clays and polymers.* Financed by: Syndial/ENI S.p.A.
- *Theoretical and experimental research on the interaction of swelling resins with soils and the application of the Uretek Deep Injection technology for mitigation of seismic actions.* Financed by: Uretek Ltd.
- *Theoretical and experimental research on the osmotic efficiency of the geosynthetic clay liners.* Financed by: Laviosa S.p.A.
- *Re-use of MSWI bottom ash as engineered landfill material.* Financed by: Provincia di Torino, ATO-R and Barricalla S.p.A.
- *In situ quality assessment system for cement-bentonite cut-off slurry walls based on piezocone tests.* Financed by Trevi Ltd. Cesena (Italy).
- *Geotechnical aspects of landfill design.* Financed by the National Gas Society (Italgas), Turin (Italy).
- *Interpretation of cone penetration tests (CPT and CPTU) and Standard penetration tests (SPT) in cohesive and non cohesive soils.* Financed by ISMES Ltd. Bergamo, Italy.
- *Training System for Environmental Geotechnicians – GEOTEC.* Financed by the European Community (contract no. 1/97/2/00258/PI/II.1.1.c/FPC) in cooperation with the Universities of Catania, Kaiserslautern, Ancona and Ghent.
- *Confining systems for polluted sites.* Financed by the Italian Ministry of Scientific Research.
- *Assessment, fate and attenuation of soil and water pollution.* Financed by the Italian Ministry of Scientific Research.
- *High Quality Laboratory (LAQ) for research activities on Disaster Planning and Management (DI.P.LAB).* Financed by the Politecnico di Torino and the San Paolo Bank Foundation.
- *Theoretical and experimental studies on multiphase coupled flows related to polluted soil remediation through multiphase extraction techniques.* Financed by the Regional Agency of Turin.

- *Integrated techniques for the remediation of polluted soils.* Financed by the Italian Ministry of Scientific Research. A patented vacuum extraction technology is now being set up for full scale applications.
- *Sustainable measures for landslide risk mitigation.* Financed by the Italian Ministry of Scientific Research.
- *Soil Contamination: Advanced integrated characterization and time-lapse Monitoring.* – SoilCAM. Financed by the 7th Framework Programme of the European Community (ID “FP7-ENV-2007-1”, prop. N° 212663)

REVIEW OF RESEARCH PROPOSALS

- Reviewer for the Australian Research Council (ARC) of some research proposals within the Large Grant Scheme programme.
- Reviewer for the Engineering Faculty of Padoa University of some research proposals submitted for joint financial support between the University and the Research Ministry (Italy).

TEACHING ACTIVITIES

Course Title	Years	Level	Credits
Soil Improvement	1998-2002	Graduate	10
Environmental Geotechnics	2000-2002	Undergraduate	5
Fundamentals of Soil Mechanics	2001-2004	Undergraduate	5
Geotechnics	2001-2004	Graduate	5
Geotechnical Engineering	2004-2015	Undergraduate	10
Soil and Rock Consolidation Techniques	2005-2011	Graduate	5
Environmental Geotechnics	2006-2015	Postgraduate	5

REFERENCES

- Prof. David E. Daniel, President of University of Texas, Dallas, 800 West Campbell Road Richardson, TX 75080-3021, USA, +1 (972) 883-2201, dedaniel@utdallas.edu
- Prof. Marco Gilli, Rector of Politecnico di Torino, c.so Duca degli Abruzzi 24, 10129 Torino, Italy, +39 (011) 09-6301, marco.gilli@polito.it
- Prof. Michele B. Jamiolkowski, Former President of ISSMGE and Emeritus Professor of Geotechnical Engineering, Politecnico di Torino, Structural, Geotechnical and Building Engineering Department, c.so Duca degli Abruzzi 24, 10129 Torino, Italy, +39 (011) 090-4840, michele.jamiolkowski@polito.it
- Prof. James K. Mitchell, Emeritus Professor, Dept. of Civil Engineering, 104 Patton Hall, Virginia Polytechnic and State University, Blacksburg, VA, USA, 24061, +1 (703) 231-7351, jkm@vt.edu

- Prof. Claudio Scavia, Head of the Structural, Geotechnical and Building Engineering Department, Politecnico di Torino, c.so Duca degli Abruzzi 24, 10129 Torino, Italy, +39 (011) 090-4840, claudio.scavia@polito.it
- Prof. Charles D. Shackelford, Head of the Department of Civil and Environmental Engineering, Colorado State University, Fort Collins, Colorado 80523, USA, +1 (970) 491-5051, shackel@engr.colostate.edu
- Prof.. William Van Impe, Emeritus Professor, Former President of ISSMGE and Former Director of the Geotechnics Laboratory of Ghent University, Technologiepark 905 B-9052 Zwijnaarde, Belgium, +32 (9) 264 5723, william.vanimpe@ugent.be