

CURRICULUM VITAE

PERSONAL INFORMATION

First name(s) / Surname(s) **GIUSEPPE CHIAPPINELLI**
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Nationality(-ies) Italian
Date of birth 13-02-1973
Gender male

EDUCATION

Dates 1999 – 2002
Title of qualification awarded PhD in “Construction of Roads, Railways and Airports”, Università Politecnica delle Marche, Ancona, Italy, title obtained on 28-03-2013
Dates 1998
Title of qualification awarded M.S. in “Civil Engineering”, Politecnico di Torino

ACADEMIC AND PROFESSIONAL QUALIFICATIONS

Dates and Title of qualification awarded
2019 – present -Associate Professor, Politecnico di Torino, Italy
2017 - National Scientific Qualification for Associate Professor Position
2008 – Assistant Professor, Politecnico di Torino, Italy
2003 – 2008 - Assistant Research, Politecnico di Torino, Italy
1999 – Licensed professional Civil Engineer

TEACHING

Dates and Course
2017 – present, main teacher of the course in “Safety and Risk Management in Construction Sites for Civil Infrastructures”, Politecnico di Torino
2009 - 2010, main teacher of the course in "Laboratory Infrastructures" in the Politecnico di Torino
2005 - 2006 - main teacher of the course “Transportation Infrastructures” in the Politecnico di Torino, campus of Mondovì (Italy)
2012 - 2016, co-responsible for the course in “Road Infrastructures” at Politecnico di Torino
2005 - 2006, co-responsible for the course in “Roadworks and Infrastructure Systems” in the University of Modena, (Italy)
2003 - current, co-responsible for the course in “Construction of Roads, Railways and Airports”, Politecnico di Torino
Theses 2008 – current, Supervisor and co-supervisor of more than 50 bachelor and master theses in the field of Civil Engineering, Politecnico di Torino

AREAS OF EXPERTISE	Design, construction and evaluation of pavements for transportation infrastructures; Laboratory characterization of construction materials Project scheduling and project management
MAIN RESEARCH TOPICS	Pavement materials with a specific interest for innovative materials and recycling techniques Pavement analysis and design
AFFILIATIONS AND PROFESSIONAL SOCIETY MEMBERSHIPS	Member of the SIIV society - Italian Society of Transportation Infrastructures; Member of CIRS (Experimental Interuniversity Road and Airport Research Center); Member of the Order of Professional Engineers of Province of Torino
ORGANIZING COMMITTEES, TALK AND PRESENTATION	<p>Oral presentation. "Experimental Evaluation of Cold-Recycled Bituminous Mixtures Used for Major Rehabilitation Works" at IVth Congress and International Exposition Added Value and Recycling of Industrial Waste (VARIREI 2003), l'Aquila, Italy;</p> <p>Invited talk. "Cold recycled bituminous mixtures", 1st National Summer School SIIV, Cingoli, Italy, 08/12-09-2003;</p> <p>Member of the Organizing Committee of the "6th International Conference on Maintenance and Rehabilitation of Pavements and Technological Control" - MAIREPAV6, Torino, Italy, 8/10-07-2009;</p> <p>Member of the Organizing Committee of the seminar "Evaluation of bituminous mixtures containing crumb rubber in road pavements", Torino, Italy, 06/13-02-2014;</p> <p>Member of the Organizing Committee of XIV SIIV Summer School "Advances in Design and Construction of Road Infrastructures", Torino, Italy, 13/16-09-2016</p> <p>Invited talk. "Guidelines for the design and construction forest roads with the use of Standard Cost Units for the economic evaluation of projects", Piedmont Region (Italy) 20/28-09-2016</p>
PUBLICATIONS (SELECTION)	<p>Tsantilis L., Chiappinelli G., Baglieri O., Riviera P.P., Miglietta F., Santagata E. Performance Characteristics of Nano-Modified Asphalt Mixtures. Proceedings of the 9th International Conference on Maintenance and Rehabilitation of Pavements—Mairepav9 (2020); pp. 587-595. ISBN: 978-3-030-48678-5 978-3-030-48679-2</p> <p>Santagata E, Baglieri O, Tsantilis L., Dalmazzo D, Chiappinelli G. Fatigue and healing properties of nano-reinforced bituminous mastics. <i>Mechanics of Time-Dependent Materials</i>, (2016); Vol. 20, p.367-387. ISSN: 1385-2000; Doi: 10.1007/s11043-016-9301-4</p> <p>Santagata Ezio, Baglieri Orazio, Tsantilis Lucia, Chiappinelli Giuseppe, Dalmazzo Davide (2016). Bituminous-based nanocomposites with improved</p>

high-temperature properties. COMPOSITES. PART B, ENGINEERING, vol. 99, p. 9-16, ISSN: 1359-8368,
Doi: 10.1016/j.compositesb.2016.05.020

Santagata Ezio, Baglieri Orazio, Tsantilis Lucia, Chiappinelli Giuseppe (2016). Storage Stability of Bituminous Binders Reinforced with Nano-Additives. In: Canestrari F. Partl M. N.. 8th RILEM International Symposium on Testing and Characterization on Sustainable and Innovative Bituminous Materials. vol. RILEM BOOKSERIES Vol.11, p. 75-87, Springer Netherlands, ISBN: 978-94-017-7342-3,
Doi: 10.1007/978-94-017-7342-3_7

Santagata Ezio, Baglieri Orazio, Tsantilis Lucia, Chiappinelli Giuseppe (2015). Fatigue properties of bituminous binders reinforced with carbon nanotubes. INTERNATIONAL JOURNAL OF PAVEMENT ENGINEERING, vol. 16, p. 80-90, ISSN: 1029-8436,
Doi:10.1080/10298436.2014.923099

Ezio Santagata, Orazio Baglieri, Lucia Tsantilis, Giuseppe Chiappinelli, Ilaria Brignone Aimonetto (2015). Effect of sonication on high temperature properties of bituminous binders reinforced with nano-additives. CONSTRUCTION AND BUILDING MATERIALS, vol. 75, p. 395-403, ISSN: 0950-0618,
Doi: 10.1016/j.conbuildmat.2014.11.021

Ezio Santagata, Orazio Baglieri, Lucia Tsantilis, Giuseppe Chiappinelli (2015). Fatigue and healing properties of nano-reinforced bituminous binders. INTERNATIONAL JOURNAL OF FATIGUE, vol. 80, p. 30-39, ISSN: 0142-1123,
Doi: 10.1016/j.ijfatigue.2015.05.008

SANTAGATA E, CHIAPPINELLI G, BAGLIERI O, RIVIERA P.P. (2010). Triaxial Testing for the Short Term Evaluation of Cold-Recycled Bituminous Mixtures. ROAD MATERIALS AND PAVEMENT DESIGN, vol. 11, p. 123-147, ISSN: 1468-0629,
Doi: 10.3166/RMPD.11.123-147

Ezio Santagata, Orazio Baglieri, Lucia Tsantilis, Giuseppe Chiappinelli (2013). Effects of Nano-sized Additives on the High-Temperature Properties of Bituminous Binders: A Comparative Study. In: Kringos N. Birgisson B. Frost D. Wang L.. Multi-Scale Modeling and Characterization of Infrastructure Materials - Proceedings of the International RILEM Symposium, Stockholm, June 2013. vol. RILEM BOOKSERIES VOL.8, p. 297-309, Springer, ISBN: 9789400768772, doi: 10.1007/978-94-007-6878-9_22

SANTAGATA E, CHIAPPINELLI G, RIVIERA P.P. (2007). Experimental Investigation for the Analysis of Cold-Recycled Bituminous Mixtures. In: Proceedings of the Fifth International Conference on Maintenance and Rehabilitation of Pavements and Technological Control. p. 463-468, ISBN: 9780874141597, Park City, Utah, USA, 8-10 August 2007

PRINCIPAL WORK EXPERIENCES

<i>Dates - Type of project</i>	2018 – current - Research Project funded by the Piedmont Region (Italy) “POR-FESR 2014/2020
<i>Position held</i>	Scientific Coordinator for the Politecnico di Torino research unit
<i>Project and main themes</i>	Title project: “Experimental study of systems and innovative and eco-sustainable cement materials for pervious concrete pavement” developed in collaboration with the Cismondi SPA laboratory. The research project focuses on two main themes: - the re-use of materials from crush demolition waste (CDW) in cement-based products; - the use of pervious concrete for surface layers: for road pavements in low vehicular traffic for parking area and for cycle road.
<i>Main activities and responsibilities</i>	Laboratory and field experiments will be finalized to: - development of models for the structural design of the thickness of the drainage concrete layer that takes into account its specificity in terms of permeability and resistance; - implementation of the Life cycle costs (LCCA) method to better evaluate the benefits of using permeable concrete layer; - define technical specifications for use of the technique.
<i>Dates - Type of project</i>	2017 – 2018 - Research Contract
<i>Position held</i>	Scientific coordinator
<i>Project and main themes</i>	Title project “Experimental study for the evaluation of fatigue strength using flexural tests (4PB) of bituminous mixtures for surface layers of road pavement”. The experimental investigations concerned the study of bituminous mixtures added with synthetic fibers to be used in the surface layer of road pavements
<i>Name of employer</i>	Cismondi SPA, Cuneo (Turin - Italy)
<i>Main activities and responsibilities</i>	The main experimental activities carried out: - Evaluation of the composition and volumetrics of asphalt concrete mixtures; - Production of slabs by pneumatic-tyre roller and extraction of beams for the evaluation of volumetric and mechanical properties; - Evaluation of the resistance to fatigue of beams by testing flexural load in sinusoidal regime (4PB).
<i>Dates - Type of project</i>	2012 – 2016 - Research Project funded by the National Research funds “FIRB2010”
<i>Type of the sector</i>	European Research Council (ERC) - PE Physical Sciences and Engineering: PE8_3 Civil engineering, maritime/hydraulic engineering, geotechnics, waste treatment; PE8_9 Materials engineering (biomaterials, metals, ceramics, polymers, composites, ...)
<i>Position held</i>	Principal Investigator and Scientific Coordinator for the Politecnico di Torino research unit
<i>Project and main themes</i>	Title project: “Damage and healing of innovative nano-structured and polymer-modified bituminous materials” developed in collaboration with the Università Politecnica delle Marche (Italy) research unit.

<p><i>Main activities and responsibilities</i></p>	<p>The experimental work carried out by the two research units had the main objective is the search for innovative bituminous composite materials having durability characteristics to the mechanical and thermal actions superior to those currently available on the market.</p> <p>The innovative materials were obtained using special additives that modified the damage and self-healing mechanisms, acting on the structure of the bonding matrix at various dimensional scales (at the nano-scale and at the meso-scale). In particular, nano-materials such as carbon nanotubes have been used (CNT - carbon nanotubes) and the nano-clays (NC - nano-clays) and the addition polymers both elastomeric and thermoplastic, usable also by means of modification processes "dry" without the use of special equipment for industrial processing.</p> <p>The PoliTO unit has carried out experimental laboratory activities and the modeling of the corresponding data. In particular:</p> <ul style="list-style-type: none"> - definition of the mixing protocol of the bitumen-additive systems, particular attention was paid to the main factors that can influence the stability and homogeneity of the final product; - the modified bitumen were subjected to thermo-oxidative simulation processes and thus used for an advanced rheological study for the determination of fatigue resistance, self-healing capacity, resistance to the permanent deformations and rheological response to the thermal cracking. The results obtained were modeled and correlations between the constitutive characteristics and the stress-strain and resistance behavior were identified. - Finally, the innovative bituminous binders have been used for the preparation of mastics and bituminous mixtures and subjected to mechanical and rheological characterization to evaluate the performance of the materials respect to the main failures that occur in flexible pavements
<p><i>Dates - Type of project</i> <i>Position held</i> <i>Project and main themes</i></p>	<p>2011 – 2012 - Research Contract Coordinator of laboratory activities Title project "Performance characterization of cold recycled bituminous mixtures - Works to the third lane of the A1 motorway, Section Roma Nord - Settebagni". The project focuses on the use of the RAP (Reclaimed Asphalt Pavement) in flexible road pavements. In particular, the research project was started to evaluate the potential of the cold-recycled mixtures of plants for the construction of base courses in asphalt pavements for heavy work at high depth.</p>
<p><i>Name of employer</i> <i>Main activities and responsibilities</i></p>	<p>SPEA INGEGNERIA EUROPEA S.p.A The main activities concerned experimental investigations for the mix-design of cold recycled bituminous mixtures with emulsion. In particular, the key role played by compaction temperature was highlighted by discussing the results obtained both in the test section and in the laboratory. Finally, experimental results were used for the definition of technical specification guidelines for cold-recycling pavement construction works.</p>