

DAVIDE DALMAZZO

Associate Professor

POLITECNICO DI TORINO – Department of Environment, Land and Infrastructures Engineering

24, Corso Duca degli Abruzzi – 10129 Turin, Italy

E-mail address: davide.dalmazzo@polito.it

Telephone number: +39 0110905622

Mobile number: [REDACTED]

ORCID ID: orcid.org/0000-0002-3333-2330

PERSONAL INFORMATION

Born in Bra (CN), 7 November 1979

Home address: [REDACTED]

Italian nationality; fluent in Italian and French; good knowledge of English

CURRENT POSITION AND AFFILIATION

Associate Professor of “Roads, Railways and Airports”, Politecnico di Torino

AREA OF EXPERTISE

Infrastructure geometry design

Design, construction and evaluation of road pavements

Characterization and modeling of innovative paving materials

EDUCATION

2009 Ph.D., Structures and Infrastructures, Università Politecnica delle Marche, Ancona, Italy

2005 M.S., Civil Engineering, Politecnico di Torino, Turin, Italy

ACADEMIC CAREER

2017 – present Associate Professor, Politecnico di Torino, Turin, Italy

2014 – 2017 Assistant Professor, Politecnico di Torino, Turin, Italy

2009 – 2014 Research Associate, Politecnico di Torino, Turin, Italy

VISITING SCHOLAR

2017 Visiting Professor at Michigan State University, USA (15 January 2017 – 31 January 2017)

2007 Visiting Researcher at PURDUE University, USA (22 August 2007 – 22 October 2017)

AFFILIATIONS AND PROFESSIONAL SOCIETY MEMBERSHIP

2007 – present Member of the Italian Transportation Infrastructure Society (SIIV)

2007 – 2011 Member of the Italian Rheology Society (SIR)

2005 – present Member of the High Quality Experimental Laboratory (LAQ) on Recycled and Innovative Materials for the Civil Engineering Infrastructures, Politecnico di Torino

2011 – present Member of the Experimental Interuniversity Road and Airport Research Centre (CIRS)

TEACHING ACTIVITIES

Lecturer for the following courses:

2016 – present Transportation Infrastructures, BS in Civil Engineering, Politecnico di Torino

Assistant Lecturer for the following courses:

2015 – present Design of Transportation Infrastructures, MS in Civil Engineering, Politecnico di Torino

2013 – 2016 Pavement and Track Engineering, MS in Civil Engineering, Politecnico di Torino

2012 – 2016 Transportation Infrastructures, BS in Civil Engineering, Politecnico di Torino

2008 – present Construction of Roads, Railways and Airports, MS in Civil Engineering, Politecnico di Torino

2006 – 2010 Fundamental of Transportation Infrastructures, BS in Civil Engineering, Politecnico di Torino

SUPERVISION OF GRADUATE STUDENTS

2007 – present Co-supervisor of 37 MS Theses in Civil Engineering, Politecnico di Torino

2015 – present Supervisor of 6 BS Final Projects in Civil Engineering, Politecnico di Torino

2008 – 2015 Co-supervisor of 23 BS Theses in Civil Engineering, Politecnico di Torino

PRESENTATION AND INVITED TALKS

- "Rheology of complex systems: a powerful tool for engineering problems". Invited lecture. MSU – CEE Seminar, East-Lansing, Michigan, USA. 25 January 2017.
- "Presentation of LAQ-MIR Laboratory - Research Activities". Invited lecture. XIV SIIV Summer School - "Advances in Design and Construction of Road Infrastructures", Turin. 13-16 September 2016.
- "Rheology of Complex Systems: an Interdisciplinary Tool for Research and Development". Invited lecture. 5° Seminar "NoonTalk@DIATI", Turin. 16-18 March 2016.
- "Critical issues in the control and acceptance of rubberized asphalts". Invited speaker. 23rd Annual European Tyre Recycling Conference, Bruxelles, Belgio. 1 June 2016.
- "Full-scale performance evaluation of rubberized wearing course for sustainable road pavements". Poster session. XXV PIARC World Road Congress, Seoul, South Korea. 2-6 November 2015.
- "Experimental Investigation on the Combined Effects of Physical Hardening and Chemical Ageing on Low Temperature Properties of Bituminous Binders". Oral presentation. 8th RILEM International Symposium on Testing and Characterization of Sustainable and Innovative Bituminous Materials, Ancona. 7-9 October 2015.
- "Rheological characterization of bituminous binders modified with carbon nanotubes". Poster session. 5th SIIV International Congress – Sustainability of Road Infrastructures, Rome. 29-31 October 2012.
- "Performance-Related Characterization of Bituminous Binders and Mixtures Containing Natural Asphalt". Poster session. 5th SIIV International Congress – Sustainability of Road Infrastructures, Rome. 29-31 October 2012.
- "Design and Construction of a Full-Scale Test Section with Asphalt Rubber Gap-Graded Wearing Course Mixture". Poster session. 5th SIIV International Congress – Sustainability of Road Infrastructures, Rome. 29-31 October 2012.

ORGANIZATION OF SCIENTIFIC EVENTS

- | | |
|------|---|
| 2017 | Member of the Technical Program Committee of the Organizing Committee of the International Conference on Mechanics, Civil Engineering and Building Material – MCEBM2017, Nanjing, China, 21-23 April, 2017. |
| 2016 | Member of the Organizing Committee of the XIV SIIV Summer School on "Advances in Design and Construction of Road Infrastructures", Turin, Italy, 13-16 September 2016. |
| 2009 | Member of the Organizing Committee of the 6 th International Conference on Maintenance and Rehabilitation of Pavements and Technological Control (MAIREPAV6), Turin, Italy, 8-10 July 2009. |

EDITORIAL ROLES

- | | |
|----------------|---|
| 2016 – present | Member of the Editorial Board of the Civil Engineering Journal (C.E.J.), published on-line and open access. ISSN: 2476-3055 |
|----------------|---|

REVIEWING ACTIVITIES

- | | |
|----------------|--|
| 2017 – present | International Journal of Pavement Engineering, ISSN: 1029-8436 |
| 2017 | 2017 International Conference on Mechanics, Civil Engineering and Building Material – MCEBM2017 |
| 2016 – present | Civil Engineering Journal (C.E.J.), ISSN: 2476-3055 |
| 2015 | 8 th International RILEM Symposium – SIB2015 |
| 2009 | 6 th International Conference on Maintenance and Rehabilitation of Pavements and Technological Control (MAIREPAV6), Turin, Italy, 8-10 July 2009. |

PATENTS

- | | |
|----------------|--|
| 2015 – present | Industrial invention titled "Procedimento per la produzione di bitume modificato mediante uso di melme di verniciatura" by Politecnico di Torino and Centro Ricerche Fiat s.c.p.a.. (Brevetto BIT 18446 – inventors: M. Zanetti, E. Santagata, B. Ruffino, D. Dalmazzo, G. Gaido). |
|----------------|--|

FUNDED RESEARCH AS PARTICIPANT

Grants attributed as a result of peer review and/or technical committee evaluation:

- | | |
|-------------|--|
| 2015 – 2016 | TYREC4LIFE PLUS – Development and implementation of innovative and sustainable technologies for the use of scrap tyre rubber in road pavements. Ministry of the Environment and Protection of Land and Sea |
| 2015 | RP2 – Reuse of paint sludge in road Pavements. FCA Group. Fiat Group Automobiles |
| 2013 | Preliminary evaluation of the possible use of natural stone sawmilling fillers in bituminous mixtures. Commerce Chamber VCO |
| 2012 – 2016 | Damage and healing of innovative nano-structured and polymer-modified bituminous materials. FIRB |

2012 – 2014	POLIPNEUS Science and technology of bituminous binders and mixtures containing crumb rubber. Ecopneus s.c.p.a.
2011 – 2015	TYREC4LIFE – Development and implementation of innovative and sustainable technologies for the use of scrap tyre rubber in road pavements. European Union (LIFE+)
2011 – 2013	PRIN (Project of Relevant National Interest) Cold-recycled bituminous base layers with enhanced structural performance. Italian Ministry of Instruction, University and Research
2010-13	RICCO – Reuse of ashes derived from biomass combustion. Ministry for Agricultural development
2007-2011	AWIS – Airport weather information system for the prediction, monitoring and management of meteorological winter emergencies in airports. Piedmont Region

Funding from public Administrations and private Companies:

2017 – present	Study on the thermal resistivity of concrete mixtures. SITAF
2017 – present	Experimental study on the materials to be employed in the new Frejus emergency road tunnel. Tunnel Frejus s.c.a.r.l.
2017	Functional rehabilitation of special pavement structures. CSI s.p.a.
2017	Laboratory investigation on cement stabilized mixtures for the implementation of a new rational design method for semi-rigid pavements. SPEA Engineering s.p.a.
2017	Experimental investigation on bituminous mixtures. SITAF s.p.a.
2017	Technical evaluation on the use of paint sludge to produce bituminous mixtures (Patent BIT 18446). FCA Group
2017 – present	Development of technologies and systems for the optimization of road construction. Sitalfa s.p.a.
2016 – 2017	Field and laboratory investigation on performance characteristics of wearing courses asphalt mixtures. Bitux s.p.a.
2016	Maintenance and rehabilitation of pavements in tramway infrastructures for mixed use. GTT S.p.a.
2016	Laboratory and in situ tests of the runway strips in the “Capodichino” airport. GESAC S.p.a.
2015	Preliminary evaluation of the bituminous mixtures employed in the extraordinary maintenance 2010. Città Metropolitana di Torino
2015	Mix design of bituminous mixtures employed at the NTC test circuit. IMP S.r.l.
2014	Laboratory and field investigations for the mix design of bituminous mixtures containing crumb rubber from ELTs. ATIVA Engineering
2012	Certification of crumb rubber produced by means of high pressure waterjet technology. Greentech Innovation S.p.a.
2011	Preliminary monitoring of a pilot section with gap-graded wearing course containing crumb rubber. Ecopneus s.c.p.a.
2011	Preliminary evaluation of technologies for the use of crumb rubber in road pavements Ecopneus s.c.p.a.
2011	Advanced characterization of high-performance bituminous mixtures for motorway pavements. Sitalfa S.p.a.
2011	Analysis of the mechanical and strength properties of bituminous mixtures employed for the construction of the Fier-Tepelene highway (Albania project) Todini Costruzioni Generali S.p.a.
2011	Quality Assurance of paving materials employed on the A32 Torino-Bardonecchia motorway. SITAF S.p.a.
2010	Preliminary evaluation of the resistance to permanent deformation of special wearing course mixtures (Algeria project) Todini Costruzioni Generali S.p.a.
2009 – 2010	Evaluation of the possible use of crumb rubber from end-of-life tires in road pavements. Province of Turin
2009	Investigation on the performance of bituminous mixtures with high rutting resistance (Lybia project). Iterchimica s.r.l.
2007	Forensic investigation on the pavement of the Asti-Cuneo motorway (Section 2 Isola d’Asti – Motta). ANAS S.p.a. Compartimento Viabilità Piemonte
2006 – 2007	Evaluation of the effects of lime on the performance properties of cold-recycled bituminous mixtures. Pavimental S.p.a.
2006	Design of a full-scale accelerated loading pavement facility. Pavimental S.p.a.

PUBLICATIONS

Articles in indexed international journals or proceedings:

1. Zanetti, M.C., Ruffino, B., Dalmazzo, D., Lanotte, M., Santagata, E., in press. Determination of Crumb Rubber Content of Asphalt Rubber Binders. *Journal of Materials in Civil Engineering* 30–4, [https://doi.org/10.1061/\(ASCE\)MT.1943-5533.0002213](https://doi.org/10.1061/(ASCE)MT.1943-5533.0002213)
2. Santagata, E., Baglieri, O., Dalmazzo, D., Tsantilis, L., 2017. Investigating cohesive healing of asphalt binders by means of a dissipated energy approach. *International Journal of Pavement Research and Technology* - ISSN:1996-6814, doi:10.1016/j.ijprt.2017.06.004.
3. Dalmazzo, D., Vercelli, A., Santagata, E., Ruffino, B., Zanetti, M.C., 2017. Rheological characterization and performance-related evaluation of paint sludge modified binders. *Materials and Structures* 50. doi:10.1617/s11527-016-0945-y
4. Santagata, E., Lanotte, M., Baglieri, O., Dalmazzo, D., Zanetti, M.C., 2016. Analysis of bitumen–crumb rubber affinity for the formulation of rubberized dry mixtures. *Mater Struct* 49, 1947–1954. doi:10.1617/s11527-015-0625-3
5. Zanetti, M.C., Santagata, E., Fiore, S., Ruffino, B., Dalmazzo, D., Lanotte, M., 2016. Evaluation of potential gaseous emissions of asphalt rubber bituminous mixtures. Proposal of a new laboratory test procedure. *Construction and Building Materials* 113, 870–879. doi:10.1016/j.conbuildmat.2016.03.101
6. Santagata, E., Baglieri, O., Tsantilis, L., Chiappinelli, G., Dalmazzo, D., 2016. Bituminous-based nanocomposites with improved high-temperature properties. *Composites Part B: Engineering* 99, 9–16. doi:10.1016/j.compositesb.2016.05.020
7. Santagata, E., Baglieri, O., Tsantilis, L., Dalmazzo, D., Chiappinelli, G., 2016. Fatigue and healing properties of bituminous mastics reinforced with nano-sized additives. *Mech Time-Depend Mater* 1–21. doi:10.1007/s11043-016-9301-4
8. Santagata, E., Baglieri, O., Dalmazzo, D., Tsantilis, L., 2016. Experimental Investigation on the Combined Effects of Physical Hardening and Chemical Ageing on Low Temperature Properties of Bituminous Binders, in: Canestrari, F., Partl, M.N. (Eds.), 8th RILEM International Symposium on Testing and Characterization of Sustainable and Innovative Bituminous Materials, RILEM Bookseries. Springer Netherlands, pp. 631–641. doi:10.1007/978-94-017-7342-3_51
9. Santagata, E., Baglieri, O., Alam, M., Dalmazzo, D., 2015. A novel procedure for the evaluation of anti-rutting potential of asphalt binders. *International Journal of Pavement Engineering* 16, 287–296. doi:10.1080/10298436.2014.942859
10. Zanetti, M.C., Fiore, S., Ruffino, B., Santagata, E., Dalmazzo, D., Lanotte, M., 2015. Characterization of crumb rubber from end-of-life tyres for paving applications. *Waste Management, Urban Mining* 45, 161–170. doi:10.1016/j.wasman.2015.05.003
11. Bassani, M., Dalmazzo, D., Marinelli, G., Cirillo, C., 2014. The effects of road geometrics and traffic regulations on driver-preferred speeds in northern Italy. An exploratory analysis. *Transportation Research Part F: Traffic Psychology and Behaviour* 25, Part A, 10–26. doi:10.1016/j.trf.2014.04.019
12. Zanetti, M.C., Fiore, S., Ruffino, B., Santagata, E., Lanotte, M., Dalmazzo, D., 2014. Development of a laboratory test procedure for the evaluation of potential gaseous emissions of asphalt rubber bituminous mixtures, in: *Sustainability, Eco-Efficiency, and Conservation in Transportation Infrastructure Asset Management*. CRC Press, pp. 119–128.
13. Santagata, E., Baglieri, O., Tsantilis, L., Dalmazzo, D., 2013. Evaluation of self healing properties of bituminous binders taking into account steric hardening effects. *Construction and Building Materials* 41, 60–67. doi:10.1016/j.conbuildmat.2012.11.118
14. Santagata, E., Baglieri, O., Dalmazzo, D., Tsantilis, L., 2013. Evaluation of the anti-rutting potential of polymer-modified binders by means of creep-recovery shear tests. *Mater Struct* 46, 1673–1682. doi:10.1617/s11527-012-0006-0
15. Santagata, E., Riviera, P.P., Dalmazzo, D., 2012. Performance-Related Characterization of Bituminous Binders and Mixtures Containing Natural Asphalt. *Procedia - Social and Behavioral Sciences, SIIV-5th International Congress - Sustainability of Road Infrastructures 2012* 53, 535–545. doi:10.1016/j.sbspro.2012.09.904
16. Santagata, E., Baglieri, O., Tsantilis, L., Dalmazzo, D., 2012. Rheological Characterization of Bituminous Binders Modified with Carbon Nanotubes. *Procedia - Social and Behavioral Sciences, SIIV-5th International Congress - Sustainability of Road Infrastructures 2012* 53, 546–555. doi:10.1016/j.sbspro.2012.09.905
17. Santagata, E., Riviera, P.P., Dalmazzo, D., Lanotte, M., Zanetti, M., Fiore, S., Ruffino, B., 2012. Design and Construction of a Full-Scale Test Section with Asphalt Rubber Gap-Graded Wearing Course Mixture. *Procedia - Social and Behavioral Sciences, SIIV-5th International Congress - Sustainability of Road Infrastructures 2012* 53, 524–534. doi:10.1016/j.sbspro.2012.09.903
18. Baglieri, O., Dalmazzo, D., Barazia, M., Tabatabaee, H.A., Bahia, H.U., 2012. Influence of Physical Hardening on the Low-Temperature Properties of Bitumen and Asphalt Mixtures. *Procedia - Social and Behavioral*

- Sciences, SIIV-5th International Congress - Sustainability of Road Infrastructures 2012 53, 504–513. doi:10.1016/j.sbspro.2012.09.901
19. Comba, S., Dalmazzo, D., Santagata, E., Sethi, R., 2011. Rheological characterization of xanthan suspensions of nanoscale iron for injection in porous media. *Journal of Hazardous Materials* 185, 598–605. doi:10.1016/j.jhazmat.2010.09.060
 20. Novarino, D., Santagata, E., Dalmazzo, D., Zanetti, M., 2010. Rheological characterization of sludge coming from a wastewater treatment plant. *American Journal of Environmental Sciences* 6, 329–337. doi:10.3844/ajessp.2010.329.337
 21. Santagata, E., Baglieri, O., Dalmazzo, D., Tsantilis, L., 2009. Rheological and Chemical Investigation on the Damage and Healing Properties of Bituminous Binders, in: *Journal of the Association of Asphalt Paving Technologists*. Presented at the Asphalt Paving Technology 2009.
 22. Santagata, E., Baglieri, O., Dalmazzo, D., 2008. Experimental Investigation on the Fatigue Damage Behaviour of Modified Bituminous Binders and Mastics (With Discussion). *Journal of the Association of Asphalt Paving Technologists* 77.
 23. Santagata, E., Dalmazzo, D., Tsantilis, L., Baglieri, O., 2009. The Enhancement of Performance-Related Properties of Bituminous Binders By Means of Fibers, in: *Sixth International Conference on Maintenance and Rehabilitation of Pavements and Technological Control (MAIREPAV6)*.
 24. Santagata, M., Dalmazzo, D., Santagata, E., 2008. Deformation behavior of clay-water suspensions from rheological tests. *4th International Symposium on Deformation Characteristics of Geomaterials (IS-Atlanta)*. IOS Press, Netherlands 453–459.

Articles in non-indexed conference proceedings:

1. Zanetti, M.C., Ruffino, B., Vercelli, A., Dalmazzo, D., Santagata, E., 2017. Reuse of paint sludge in road pavements: environmental issues. In: *Proceedings of the 15th International Conference on Environmental Science and Technology*, 31 August – 2 September 2017, Athens, Greece. ISSN 1106-5516, ISBN 978-960-7475-53-4.
2. Santagata, E., Tsantilis, L., Dalmazzo, D., 2017. Fatigue Characterization of Bituminous Binders Containing Crumb Rubber from End-of-Life Tires. In: *Proceedings of 2017 5th International Conference on Advances in Civil, Structural and Mechanical Engineering ACSM 2017* - pp.51-56. ISBN:978-1-63248-118-4 doi:10.15224/978-1-63248-118-4-34.
3. Santagata, E., Baglieri, O., Riviera, P.P., Dalmazzo, D., Lanotte, M., 2015. Full Performance Evaluation of Rubberized Wearing Courses for Sustainable Road Pavements. In: *XXV World Road Congress*. Seoul (Sud Corea), 2-6 novembre 2015
4. Zanetti, M.C., Fiore, S., Ruffino, B., Santagata, E., Dalmazzo, D., Lanotte, M., 2014. Characterization of Crumb Rubber from End-of-Life Tyres for Paving Applications. In: *SUM2014*. Old Monastery of Saint Augustine, Bergamo, Italy, 19-21 May 2014
5. Santagata, E., Lanotte, M., Dalmazzo, D., Zanetti, M.C., 2013. Potential performance-related properties of rubberized bituminous mixtures produced with dry technology, in: *Proceedings of the 12th International Conference on Sustainable Construction Materials, Pavement Engineering and Infrastructure*. ISBN: 9780957180420, Liverpool, UK, 27 -28 February, 2013
6. Bassani, M., Dalmazzo, D., Marinelli, G., 2013. Variables Influencing Speed Distribution on Urban Arterials and Collectors, in: *TRB 92nd Annual Meeting Compendium of Papers*. Washington DC, US. Presented at the Transportation Research Board 92nd Annual Meeting.
7. Ruffino, B., Dalmazzo, D., Riviera, P.P., Santagata, E., Zanetti, M., 2012. Preliminary performance assessment of asphalt concrete with paint sludge from automotive industries. In: *Proceedings of CRETE 2012*. p. 1-8, ISBN: 9789608475168, Chania, Crete (GR), 12-14/09/2012
8. Santagata, E., Baglieri, O., Dalmazzo, D., Tsantilis, L., 2012. Damage and healing test protocols for the evaluation of bituminous binders. Presented at the *5th Eurasphalt & Eurobitume Congress*. Istanbul (TUR), 13-15th june 2012
9. Santagata, E., Dalmazzo, D., Lanotte, M., Zanetti, M.C., Ruffino, B., 2012. Relationship between crumb rubber morphology and asphalt rubber viscosity, In: *Proceedings of the Asphalt Rubber 2012 Conference*. p. 513-532, Dr. Jorge B. Sousa, ISBN: 9789892032559, Munich, Germany, October 23-26, 2012
10. Ruffino, B., Dalmazzo, D., Zanetti, M., Santagata, E., 2011. Preliminary evaluation of the potential use of paint sludge in bituminous binders. In: *Proceedings of Sardinia 2011*. p. 1-8, CISA Publisher, ISBN: 9788862650007, S. Margherita di Pula, (IT), 3 – 7/10/2011
11. Santagata, E., Riviera, P.P., Dalmazzo, D., 2011. Rutting Behaviour of Wearing Course Mixtures in Severe Temperature and Loading Conditions. Presented at the *5th International Conference "Bituminous Mixtures and Pavements"*, Thessaloniki, Greece, 1-3 June, 2011, pp. 541-550 ISBN: 9789609992206.

12. Bassani, M., Dalmazzo, D., Riviera, P.P., 2011. Field Investigation on the Effects on Operating Speed Caused by Trapezoidal Humps, in: Proceedings of the 90th TRB Annual Meeting.
13. Novarino, D., Santagata, E., Dalmazzo, D., Zanetti, M., 2008. Caratterizzazione reologica di fanghi provenienti dalla depurazione di acque reflue. In: -. Proceedings SIDISA 2008. Firenze, 24-27 giugno, vol. CD ROM, p. 1-8, ISBN: 9788890355707

Documents	Citations	h-index	Source
18	152	7	SCOPUS
16	140	6	WEB OF SCIENCE
36	331	10	GOOGLE SCHOLAR

Turin, 22 February 2018

