

Tommaso D'Antino

Curriculum Vitae

email: tommaso.dantino@polimi.it

Nazionalità: italiana

Università: Politecnico di Milano

Dipartimento: Architettura, Ambiente costruito e Ingegneria delle costruzioni

Posizione ricoperta: Ricercatore TDA

ISTRUZIONE e FORMAZIONE

Settembre 2010 - Marzo 2014

PhD in Ingegneria Civile

Università di Padova, Via VII febbraio 2, Padova, 35100, Italia.

Indagine sperimentale, analitica e numerica di elementi in ca rinforzati a flessione, taglio e confinati con compositi fibrorinforzati a matrice organica ed inorganica.

Settembre 2012 - Maggio 2013

Visiting Scholar

Missouri S&T, 1401 North Pine Street, Rolla, MO, 65409, USA.

Campagna sperimentale e modellazione analitico/numerica del comportamento di aderenza di compositi fibrorinforzati a matrice inorganica (FRCM) con fibre in PBO.

Settembre 2007 - Luglio 2010

Laure Specialistica in Ingegneria Edile 110/110L e menzione di merito

Università di Padova, Via VII febbraio 2, Padova, 35100, Italia.

Progettazione e calcolo di elementi e strutture in ca, cap, acciaio, muratura, legno e materiali compositi. Progettazione e valutazione sismica di strutture industriali e per civile abitazione. Rinforzo e adeguamento di elementi e strutture esistenti con materiali tradizionali ed innovativi.

Settembre 2008 - Luglio 2009

Erasmus in Ingegneria Civile

Instituto Superior Tecnico, Avenida Rovisco Pais, 1 – 1049-001, Lisbon, Portugal.

Progettazione e valutazione sismica di strutture in ca, acciaio e legno. Progettazione architettonica di strutture abitative a diverse scale.

Settembre 2004 – Luglio 2007

Laurea Triennale in Ingegneria Edile 110/110L

Università di Padova, Via VII febbraio 2, Padova, 35100, Italia.

Progetto di strutture in acciaio e ca; valutazione e rinforzo di strutture esistenti in ca, muratura e acciaio.

ESPERIENZA LAVORATIVA

Ottobre 2015 - Presente

Ricercatore legge 240/10 - t.det. a tempo pieno

ICAR/09 – Tecnica delle Costruzioni

Politecnico di Milano

Dip. ABC

Viale Giuseppe Ponzio 33, 20133 Milano.

Settembre 2014 – Settembre

Early Stage Researcher

2015

Call identifier: FP7-PEOPLE-2013-ITN

Acronimo: ENDURE (Contratto n: MC-ITN-2013-607851)

Budget totale: 3,870,520.94 €

Partecipanti: USFD, UGent, UPAT, UBAH, LTU, BME, UdG, UNIPD, POLIMI, UNIKL, Empa, UMINHO, LUPMI, NetComp.

Istituzione ospitante: University of Patras, Rio achaia, Patras, 26504, Greece.

Studio sperimentale, analitico e numerico di elementi in muratura e ca rinforzati con compositi fibrorinforzati a matrice polimerica (FRP) e a

Marzo 2014 – Settembre 2014	matrice inorganica (TRM, FRCM) attraverso collaborazioni internazionali con University of Hartford (CT, USA), Missouri S&T (MO, USA), Northwestern University (IL, USA), e Università di Padova (IT). Svolgimento della campagna sperimentale “Round Robin Test” del comitato Rilem TC-250 CSM. Assegno di ricerca FSE Codice progetto: 2505/201/6/1148/2013 Titolo: “Il rinforzo strutturale di manufatti esistenti tramite compositi innovativi con fibre ad alta resistenza e malte cementizie” Università di Padova, Via VII febbraio 2, Padova, 35100, Italia. Campagna sperimentale e studio analitico del comportamento di aderenza di compositi fibrorinforzati a matrice inorganica (FRCM) per il rinforzo di elementi in calcestruzzo.
Giugno 2014	Lecturer of Structural Engineering Ecole Nationale Supérieure des Travaux Publics, Rue Elig Efi, Yaoundé, Camerun.
Giugno 2014	Lecturer of Structural Analysis (Master Course) Ecole Nationale Supérieure des Travaux Publics, Rue Elig Efi, Yaoundé, Camerun.
Novembre 2013 - Febbraio 2014	Tutor di Tecnica delle Costruzioni ALSI Università di Padova, Via VII febbraio 2, Padova, 35100, Italia.
Ottobre 2013 - Marzo 2014	Tutor di Tecnica delle Costruzioni Università di Padova, Via VII febbraio 2, Padova, 35100, Italia.
Settembre 2011 - Luglio 2012	Tutor di Ingegneria Informatica Università di Padova, Via VII febbraio 2, Padova, 35100, Italia.

ARGOMENTI DI RICERCA

- Aderenza tra compositi fibrorinforzati a matrice organica (FRP) e inorganica (FRCM) e supporti in calcestruzzo e muratura.
 - Modellazione analitica del comportamento a flessione e taglio di elementi in calcestruzzo armato rinforzati con materiali compositi applicati esternamente.
 - Comportamento a fatica di compositi FRCM.
 - Modellazione numerica di sistemi non lineari (aderenza tra calcestruzzo e compositi FRP e FRCM, interazione tra rinforzo in acciaio esistente e rinforzo in FRP applicato esternamente in elementi in calcestruzzo).
 - Meccanica della frattura applicata a materiali compositi.
 - Comportamento meccanico di barre in vetroresina rispetto a condizioni ambientali aggressive e carichi permanenti (creep)
 - Studio dell'aderenza tra elementi lignei per il ripristino di strutture di particolare rilevanza.
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PUBBLICAZIONI

RIVISTE INTERNAZIONALI (PEER-REVIEWED)

- **D'Antino T**, Pellegrino C, Salomoni V, Mazzucco G. (2012). Shear behavior of RC structural members strengthened with FRP materials: a 3D numerical approach, *ACI Special Publication*, (ACI SP-286), M. Lopez, and C. Carloni (Eds).
 - Pellegrino C, **D'Antino T** (2013). Experimental behaviour of existing precast prestressed reinforced concrete elements strengthened with cementitious composites, *Composites Part B: Engineering*, v 55, p 31-40. DOI: 10.1016/j.compositesb.2013.05.053.
 - **D'Antino T**, Pellegrino C (2014). Bond between FRP composites and Concrete: assessment of design procedures and analytical models, *Composites Part B: Engineering*, v 60, p 440-456. DOI: 10.1016/j.compositesb.2013.12.075.
 - Sneed LH, **D'Antino T**, Carloni C (2014) Investigation of the Bond Behavior of the PBO FRCM-Concrete Interface. *ACI Materials Journal*, v 111(1-6), 12 pp.
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- Sneed LH, **D'Antino T**, Carloni C (2014). Experimental investigation of FRCM-concrete interfacial debonding. *ACI Special Publication*, (ACI SP-298), Y.J. Kim (Eds).
 - **D'Antino T**, Carloni C, Sneed LH, Pellegrino C (2014). Matrix-fiber bond behavior in PBO FRCM composites: a fracture mechanics approach. *Engineering Fracture Mechanics*, v 117, p 94-111. DOI: 10.1016/j.engfracmech.2014.01.011.
 - Carloni C, **D'Antino T**, Sneed LH, Pellegrino C (2014). Role of the matrix layers in the stress-transfer mechanism of FRCM composites bonded to a concrete substrate. *Journal of Engineering Mechanics*, ASCE. DOI: 10.1061/(ASCE)EM.1943-7889.0000883, 2014.
 - **D'Antino T**, Pellegrino C, Carloni C, Sneed LH, Giacomini G (2015). Experimental analysis of the bond behavior of glass, carbon, and steel FRCM composites. *Key Engineering Materials*, v 624, p 371-378, 2015. DOI: 10.4028/www.scientific.net/KEM.624.371.
 - Sneed LH, **D'Antino T**, Carloni C, Pellegrino C (2015). A comparison of the bond behavior of PBO-FRCM composites determined by single-lap and double-lap shear test. *Cement and Concrete Composites*, v 64, p 37-48.
 - **D'Antino T**, Carloni C, Sneed LH, Pellegrino C (2015). Fatigue and post-fatigue behavior of PBO FRCM-concrete joints. *International Journal of Fatigue*, v 81, p 91-104.
 - **D'Antino T**, Sneed LH, Carloni C, Pellegrino C (2015). Influence of substrate characteristics on the bond behavior of FRCM-concrete joints. *Construction and Building Materials*, v 101, p 838-850.
 - **D'Antino T**, Triantafyllou TT (2016). Accuracy of design-oriented formulations for the evaluation of flexural and shear capacities of FRP strengthened RC beams. *Structural Concrete*. DOI:10.1002/suco.201500066
 - **D'Antino T**, Sneed LH, Carloni C, Pellegrino C (2016). Effect of the inherent eccentricity in single-lap direct-shear tests of PBO FRCM-concrete joints. *Composite Structures*, v 142, p 117-129.
 - **D'Antino T**, Gonzalez J, Pellegrino C, Carloni C, Sneed LH (2016). Experimental investigation of glass and carbon FRCM composite materials applied onto concrete supports. *Applied Mechanics and Materials*, v 847, p 60-67.
 - **D'Antino T**, Papanicolaou C (2017). Mechanical characterization of textile reinforced inorganic-matrix composites. *Composite Part B: Engineering*, v 127, p 78-91.
 - Carozzi FG, Bellini A, **D'Antino T**, de Felice G, Focacci F, et al. (2017). Experimental investigation of tensile and bond properties of Carbon-FRCM composites for strengthening of masonry elements. *Composites Part B: Engineering*, v 128, p 100-119.
 - Focacci F, **D'Antino T**, Carloni C, Sneed LH, Pellegrino C (2017). An indirect method to calibrate the interfacial cohesive material law for FRCM-concrete joints. *Materials & Design*, v 128, p 206-217.
 - Gonzalez-Libreros J, **D'Antino T**, Pellegrino C (2017). Experimental behavior of glass-FRCM composites applied onto masonry and concrete substrates. *Key Engineering Materials*, v 749, p 390-397.
 - **D'Antino T**, Carozzi FG, Colombi P, Carlo P (2017). A new pull-out test to study the bond behavior of fiber reinforced cementitious composites. *Key Engineering Materials*, v 747, p 258-265.
 - Gonzalez-Libreros J, Sneed LH, **D'Antino T**, Pellegrino C (2017). Behavior of RC beams strengthened in shear with FRP and FRCM composites. *Engineering Structures*, v 150, p 830-842.
 - **D'Antino T**, Pisani MA (2017). Evaluation of the effectiveness of current guidelines in determining the strength of RC beams retrofitted by means of NSM reinforcement. *Composite Structures*, v 167, p 166-177.
 - Carloni C, **D'Antino T**, Sneed LH, Pellegrino C (2018). Three-dimensional numerical modeling of single-lap direct shear tests of FRCM-concrete joints using a cohesive damaged contact approach. *Journal of Composites for Construction*, v 22(1), p 1-10.
 - **D'Antino T**, Pisani MA, Poggi C (2018). Effect of the environment on the performance of GFRP reinforcing bars. *Composites Part B: Engineering*, v 141, p 123-136.
 - Mazzucco G, **D'Antino T**, Pellegrino C, Salomoni V (2018). Three-dimensional finite element modeling of inorganic-matrix composite materials using a mesoscale approach. *Composites Part B: Engineering*. DOI: 10.1016/j.compositesb.2017.12.057
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CONVEGNI INTERNAZIONALI (PEER-REVIEWED)

- **D'Antino T**, Pellegrino C (2012). Assessment of current models for FRP strengthened reinforced concrete beams. *Proc. of the 6th Int. Conf. on FRP Composites in Civil Engineering, (CICE)*, June 13-15, 2012, Rome, Italy.
- Pellegrino C, **D'Antino T**, Giacomini G, Franchetti P, Da Porto F (2012). Experimental investigation on existing precast PRC elements strengthened with cementitious composites. *Proc. of the 6th Int. Conf. on FRP Composites in Civil Engineering, (CICE)*, June 13-15, 2012, Rome, Italy.
- **D'Antino T**, Pellegrino C (2012). Assessment of some analytical models for the bond strength between FRP and concrete. *Proc. of the 4th Int. Conf. on Bond in Concrete, (BIC)*, June 17-20, 2012, Brescia, Italy.
- (Keynote Lecture) Pellegrino C, **D'Antino T** (2013). Failure due to Delamination in Concrete Elements Strengthened with Cementitious Composites. *Proc. of the VIII Int. Conf. on Fracture Mechanics of Concrete and Concrete Structures, (FramCoS-8)*, March 10-14, 2013, Toledo, Spain.
- (Keynote Lecture) Carloni C, Sneed LH, **D'Antino T** (2013). Interfacial Bond Characteristics of Fiber Reinforced Concrete Mortar for External Strengthening of Reinforced Concrete Members. *Proc. of the VIII Int. Conf. on Fracture Mechanics of Concrete and Concrete Structures, (FramCoS-8)*, March 10-14, 2013, Toledo, Spain.
- **D'Antino T**, Sneed LH, Carloni C, Pellegrino C (2013). Bond Behavior of the FRCM-Concrete Interface. *Proc of the 11th Int. Symp. on Fiber Reinforced Polymer for Reinforced Concrete Structures, (FRPRCS-11)*, June 26-28, 2013, Guimarães, Portugal.
- Ceccato C, **D'Antino T**, Mazzucco G, Pellegrino C (2013). Numerical Strategies for Modelling RC Columns Confined by Means of FRP Composites. *Proc of the 11th Int. Symp. on Fiber Reinforced Polymer for Reinforced Concrete Structures, (FRPRCS-11)*, June 26-28, 2013, Guimarães, Portugal.
- Gonzalez J, Faleschini F, **D'Antino T**, Pellegrino C. Bond behaviour and sustainability of fibre reinforced cementitious matrix composites applied to masonry elements. *In Proc of the 5th International Conference on Civil, Structural and Environmental Engineering Computing*, 2015, Prague, Czech Rep.
- Gonzalez J, **D'Antino T**, Pellegrino C. Bond behaviour of basalt FRCM composites applied on RC elements. *In Proc of the 3rd Conference on smart monitoring, assessment, and rehabilitation of civil structures*, 2015, Antalya, Turkey.
- Carloni C, **D'Antino T**, Sneed LH, Pellegrino C. An Investigation of PBO FRCM-Concrete Joints Behavior using a Three-Dimensional Numerical Approach. *In Proc of the 5th International Conference on Civil, Structural and Environmental Engineering Computing*, 2015, Prague, Czech Rep.
- **D'Antino T**, Limonta A, Pisani MA (2016). Assessment of current guideline formulations for flexural strengthening of reinforced concrete beams using NSM reinforcement. *In Proc of the 8th International Conference on Fiber Reinforced Polymer (FRP) Composites in Civil Engineering*, CICE 2016, Hong Kong.
- Gonzalez-Libreros JH, Pellegrino C, **D'Antino T**, Sneed LH (2017). Evaluation of external transversal reinforcement strains of RC beams strengthened in shear with FRCM composites. *In Proc of the 8th Biennial Conference on Advances Composites in Construction, ACIC 2017*, Sheffield, UK.
- **D'Antino T**, Gonzalez J, Pellegrino C, Carloni C, Sneed LH, Giacomini G. Performance of different types of FRCM composites applied to concrete substrate. *In Proc. of the 4th International Conference on Strain-hardening Cement-based Composites (SHCC4)*, 2017, Dresden, Germany.
- Gonzalez-Libreros J, **D'Antino T**, Sneed LH, Pellegrino C, Giacomini G (2017). Internal and external transversal reinforcement interaction in RC beams strengthened in shear with externally bonded composites. *In Proc of the 4th Conference on Smart Monitoring, Assessment and Rehabilitation of Civil Structures, SMAR 2017*, Zurich, Switzerland.

PRESENTAZIONI

- Carloni C, **D'Antino T**, Sneed LH, Pellegrino C. Effect of the inherent eccentricity in single-lap direct-shear tests of FRCM composites, 18th International Conference on Composite Structures, Lisbon, Portugal.
 - Sneed LH, Carloni C, **D'Antino T**, Pellegrino C. Study of the interfacial debonding of PBO FRCM-concrete systems, *ACI Spring 2016 Convention*, Milwaukee, USA.
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- Carloni C, Sneed LH, D'Antino T, Pellegrino C. Experimental investigation of FRCM-concrete joints subject to fatigue and post-fatigue quasi-static monotonic loading, *ACI Fall 2014 Convention*, Washington, USA.
 - Sneed LH, Carloni C, D'Antino T, Pellegrino C. A comparison of the bond behavior of PBO-FRCM composites determined by single-lap and double-lap shear tests, *ACI Spring 2015 Convention*, Kansas City, USA.
 - Carloni C, D'Antino T, Sneed LH, Pellegrino C. A study of the debonding of FRCM composites from concrete, *2013 Conference of the ASCE Engineering Mechanics Institute*, 2013, Evanston, USA.
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CONVEGNI ITALIANI (PEER-REVIEWED)

- **D'Antino T.**, Pellegrino C., Majorana C., and Mazzucco G. (2011). Comportamento di travi in CA rinforzate a taglio con FRP: approccio numerico tridimensionale, *Atti del XIV Convegno Anidis, l'Ingegneria Sismica in Italia (ANIDIS 2011)*, 18-22 settembre, 2011, Bari, Italy.
 - Faleschini F., Zanini M.A., Pellegrino C., and **D'Antino T.** (2013). Indagini sperimentali sul comportamento strutturale di pannelli multistrato con isolanti poliuretanic, *Premio per giovani ricercatori ANPE Workshop per risparmiare – utilizzo del poliuretano espanso rigido e risparmio energetico*, Marzo 2013.
 - **D'Antino T.**, Carloni C., Sneed L.H., and Pellegrino C. (2013). Fiber-matrix interaction in PBO FRCM composites, *Atti del XV Convegno Anidis, l'Ingegneria Sismica in Italia (ANIDIS 2013)*, 30 giugno - 4 luglio, 2013, Padova, Italy.
-

CAPITOLI DI LIBRO

- Mazzotti C., Bilotta A., Carloni C., Ceroni F., **D'Antino T.**, Nigro E., and Pellegrino C. (2015). Bond between EBR FRP and concrete, in *Design procedures for the use of composites in strengthening of reinforced concrete structures*, *Rilem TC 234-DUC Star Book Report*, C. Pellegrino, and J. Sena-Cruz (Eds.).
 - Monti G., **D'Antino T.**, Lignola G.P., Pellegrino C., and Petrone F. (2015). Shear strengthening of RC elements by means of EBR FRP systems, in *Design procedures for the use of composites in strengthening of reinforced concrete structures*, *Rilem TC 234-DUC Star Book Report*, C. Pellegrino, and J. Sena-Cruz (Eds.).
 - Pantazopoulou S., Balafas I., Bournas D.A., Guadagnini M., **D'Antino T.**, Lignola G.P., Napoli A., Pellegrino C., Prota A., Realfonzo R., and Tastani S. (2015). Confinement of RC elements by means of EBR FRP systems, in *Design procedures for the use of composites in strengthening of reinforced concrete structures*, *Rilem TC 234-DUC Star Book Report*, C. Pellegrino, and J. Sena-Cruz (Eds.).
 - Carloni C., Bournas D.A., Carozzi F.G., **D'Antino T.**, Fava G., Focacci F., Giacomini G., Mantegazza G., Pellegrino C., Perinelli C., and Poggi C. (2015). Fiber reinforced composites with cementitious (inorganic) matrix, in *Design procedures for the use of composites in strengthening of reinforced concrete structures*, *Rilem TC 234-DUC Star Book Report*, C. Pellegrino, and J. Sena-Cruz (Eds.).
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ISCRIZIONE A COMITATI INTERNAZIONALI

- American Concrete Institute (ACI).
 - *fib* Task Group 9.3 “FRP Reinforcement for Concrete Structures”.
 - Rilem Technical Committee 234-DUC “Design Procedures for the use of Composites in Strengthening of RC Structures”.
 - Rilem Technical Committee 250-CSM “Composite for sustainable strengthening of masonry”.
 - ACI Committee 549-0L “Thin Reinforced Cementitious Products and Ferrocement”
 - TUD COST Action TU1207 “Next Generation Design Guidelines for Composites in Construction”.
 - European Network for Durable Reinforcement and Rehabilitation Solutions (ENDURE).
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ISCRIZIONE A ORDINI PROFESSIONALI

Ordine degli Ingegneri della Provincia di Cremona (n. 1582).

CONTRIBUTI A WORKSHOPS

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- **D'Antino T** (2017). Testing and quality control. Experiences, Perspectives, and Proposal at Politecnico di Milano. *Building Materials and Safety on Construction Sites for the Indian Infrastructure Sector*, New Delhi, February 27, 2017.
 - **D'Antino T** (2012). Fiber Reinforced Cementitious Matrix (FRCM); experimental investigations and open issues. *Future Directions in Composite Strengthening Applications*, University of Bologna and University of Padova (NSF-Sponsored), September 17-18, 2012.
 - **D'Antino T** (2012). Strengthening existing RC structures by means of FRP composites. *LimesNet Composite & Nanomaterials Workshop*, University of Bath, April 16-17, 2012.
 - Eurocode 2: Design of Concrete Buildings, The Hotel, Brussels, October 20-21, 2011.
-

PREMI E RICONOSCIMENTI

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- **D'Antino T.**, Triantafillou T.T., and Pellegrino C. (2014). Analysis of the structural behavior of different fiber reinforced inorganic composites (TRM/FRCM), *Present and Future of FRP in Construction Poster Competition*, Kaiserslautern, Germany, 23rd October 2014.
 - Faleschini F., Zanini M.A., Pellegrino C., and **D'Antino T.** (2013). Indagini sperimentali sul comportamento strutturale di pannelli multistrato con isolanti poliuretani, *Premio per giovani ricercatori ANPE Workshop per risparmiare – utilizzo del poliuretano espanso rigido e risparmio energetico*, Marzo 2013.
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DIDATTICA

2016-2017	<ul style="list-style-type: none"> • Laboratorio di tecnica delle Costruzioni (Cds Ingegneria Edile e delle Costruzioni, 3 CFU) • Laboratorio di progettazione architettonica 2 (Cds Progettazione dell'Architettura, 6 CFU)
2017-2018	<ul style="list-style-type: none"> • Laboratorio di tecnica delle Costruzioni (Cds Ingegneria Edile e delle Costruzioni, 3 CFU) • Structural Design (Cds Architecture - Built Environment – Interiors, 6 CFU)
