

## Prof. Dr. Marco Di Ludovico

### Personal Information

Nationality: Italian	Google Scholar ID : HdhxPMgAAAAJ
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### Education

- Ph.D. in Seismic Risk, University of Naples Federico II, 2007.
- MSc in Civil Engineering (Summa cum Laude), Università di Napoli Federico II, Italy, 2003.

### Employment history

2018 – present	<i>Associate Professor of Structural Engineering, Department of Structures for Engineering and Architecture (DIST) University of Naples Federico II</i>
2010	<i>Confirmed in the role of Assistant Professor.</i>
2007	<i>Assistant Professor of Structural Engineering, Department of Structural Engineering (DIST), University of Naples Federico II, from 17th October 2007</i>
2006– 2007	<i>Post Doctoral Fellow, Department of Structural Analysis and Design (DAPS), University of Naples Federico II</i>
2002	<i>Visiting Scholar, Univ. of Missouri Rolla, Center for Infrastructure Engineering Studies (CIES).</i>

### Institutional Responsibilities

- Responsible for quality control, Laboratory of Structural Engineering, Department of Structures for Engineering and Architecture (DIST)

### Approved Competitive Research Projects

Research member of projects:

- **MARIE CURIE MRTN-CT-2004-512397 EN-CORE** European Network for Composite Reinforcement; 36 months;
- **MACE IMAST DM 24442** MAteriali Compositi innovativi per l'Edilizia; 48 months;
- **MAMAS DM 28922** Materiali Avanzati Multiprestazionali per Applicazioni Strutturali in edilizia; 48 months;
- **SIMURAI 917-04** Strumenti Integrati per il MULTi Risk Assessment territoriale in ambienti urbani antropizzati; 48 months;
- **SIT-MEW DM 9036** Sistema Integrato di Telecomunicazioni a larga banda per la gestione del territorio e delle emergenze in caso di calamità naturali comprensivo di Metodologie di Early Warning; 48 months;
- **DABACOM** N. E01/0833/01-02/X17 Sistema per l'archiviazione di dati numerico-sperimentali di materiali compositi per applicazioni industriali; 24 months;
- **POR CAMPANIA 200-2006** mis 3.17 COMPOSITES COMPOsiti per la Sicurezza di Infrastrutture di Trasporto soggette ad azioni ESTreme; 24 months;
- **PON R&C PROVACI 01\_02324** Tecnologie per la PROtezione sismica e la VALorizzazione di Complessi di Interesse culturale; 36 months;
- **INDUSTRIA 2015 - EE01\_00047** INNOVANCE Innovazioni di prodotto/processo e integrazione della filiera delle costruzioni edili per l'efficienza energetica e lo sviluppo sostenibile; 36 months;
- **PON R&C STRIT 01\_02366** Strumenti e Tecnologie per la gestione del Rischio delle Infrastrutture di Trasporto; 36 months;
- **PON03PE\_00093\_4 –METROPOLIS** - Metodologia e Tecnologie integrate e sostenibili per l'adattamento e la sicurezza dei sistemi urbani; 36 months;
- **PON03PE\_00093\_5 –METRICS-** Metodologie e tecnologie per la riqualificazione dei centri storici e degli edifici di pregio; 36 months;

- **H2020 H2020-DRS-2015** Progetto LIQUEFACT- Assessment and mitigation of liquefaction potential across Europe: a holistic approach to protect structures / infrastructures for improved resilience to earthquake-induced liquefaction disasters; 36 months;

### Other Research Grants

Scientific responsibility of:

- **DPC - ReLUIS 2014-2016** – Research Line - RS 13 “Post-earthquake data analysis: usability, damage and design of repair/strengthening intervention”; year 2016 (€ 20.000,00);
- **DPC - ReLUIS 2014-2018** – Research Line - RS 4 “Post-earthquake data analysis: usability, damage and design of repair/strengthening intervention”; year 2017 (€ 15.000,00);
- **DPC - ReLUIS 2014-2018** – Research Line - RS 4 “Post-earthquake data analysis: usability, damage and design of repair/strengthening intervention”; year 2018 (€ 20.000,00);
- **DPC - ReLUIS 2019-2021** – Research Line - WP 2 “Inventory of existing buildings structural tipologies”; year 2019-2021 (€ 45.000,00);
- **DPC - ReLUIS 2019-2021** – Research Line - WP 4 “Risk maps and seismic damage scenario (MARS)”; year 2019-2021 (€ 135.000,00);
- **DPC - ReLUIS 2019-2021** – Research Line - WP 7 “Post-earthquake data analysis”; year 2019-2021 (€ 210.000,00);
- **DPC - ReLUIS 2019-2021** – Research Line - WP 8 “Dissemination”; year 2019-2021 (€ 45.000,00);
- **INCASS** – Innovative system of mechanical anchors for sustainable and safe glass facades”; year 2019-2020, 18 months (€ 280.025,00);

### Teaching activity

- “Complements of Structural Engineering”, for the MSc degree course in Structural and Geotechnical Engineering, 2017 to present;
- “Materials and Structures Mechanics”, for the MSc degree course in Biomedical Engineering, 2014 to present;
- “Design and Retrofit of RC Constructions”, for Master Degree course in “Emerging technologies for construction (ETeC)” 2011/2012 to 2013/2014 and for the MSc degree course in Structural and Geotechnical Engineering, academic years 2010/2011 to 2014/2015

Teaching activity as lecturer:

- “Innovative Materials”, for the M.Sc degree course in Civil Engineering, 2003/2004 to 2004/2005 and 2008/2009 to 2016/2017;
- “Structural Engineering”, for the M.Sc degree course in Civil and Aedile Engineering , 2003/2004 to 2006/2007 and 2008/2009;
- “Materials and Structures Mechanics”, for the M.Sc degree course in Biomedical Engineering, 2006/2007 to 2009/2010;
- “Special Structures”, for the M.Sc short degree course Civil Engineering, 2003/2004 to 2014/2015;
- “Management and Maintenance of Structures”, for the M.Sc degree course in Managerial Engineering for Projects and Infrastructures, 2005/2006, 2006/2007.

### Supervision of young researchers

- **Senior Researchers:** Ciro Del Vecchio
- **Post-Docs:** Giuseppina De Martino, Gennaro Maddaloni
- **PhD Students:** Francesca Autiero, Marta Del Zoppo; **Co-advised:** Raffaele Frascadore
- **Research Assistants:** Andrea Santoro

### Memberships in panels and boards

- Member of Working Group by CSLLPP - Public Works National Council for the revision of the Circular n° 617 02/02/2009 - Instructions for the application of the Italian Building Technical Code (DM14/01/2008) (2017-present)
- Member of Working Group “Learning from Earthquakes (LFE)” by Earthquake Engineering Research Institute (EERI) (2014-present);

- Member of the EAEE (European Association for Earthquake Engineering) Working Group 1 (EC8) Future Directions for Eurocode 8 (2013-present)
- Member of the fib (Federation International du Beton) TG 9.3 "FRP Reinforcement", Task Group 5.1 'FRP Reinforcement for Concrete Structures' (2008-present);
- PhD board "Materials and Structural Engineering" Univ. of Naples Federico II (2008-2013)
- Member of several CNR (Italian National Research Council) working groups on the development of technical documents on civil engineering (2007-present)
- Member of the Reviewer Panels of several scientific journals (ASCE J. Comp. for Constr; ACI Struct. J.; ACI Struct&Mat. J.; Bull. of Earth. Eng.; Comp.& Struct.; Constr. & Build. Mat.; Earth. Eng.&Struct. Dyn.; Eng. Str.; J. of Earth. Eng.; J. of Reinf. Plast.&Comp.; J. of Civ. Struct. Health Monit.; Int. J. of Conc. Struct.&Mat.; Mat.&Struct.; Struct. Eng.&Mech.; Polymers; Sustainability; Natural Hazards and Earth System Sciences;

### Memberships in scientific societies

- Member of the Federation International du Beton (FIB).

### Organization of conferences and events

- Session Organizer – "Special Session SS 15: SS15. Earthquake repair/retrofit costs", 16th European Conference on Earthquake Engineering, 16th ECEE, Salonico; Greece, 2018;
- Member of the scientific committee of the FORM 2018 - XXI International Scientific Conference on Advanced in Civil Engineering, 2018;
- Session Chair: ANIDIS 2017, Sessions SS02-1/SS02-1 "Central Italy Earthquake: damage to school buildings", and SG03-5 "Vulnerability and seismic risk", 2017;
- Member of the organizing committee of several national conferences and symposia:

### Invited lectures

- University of Molise, (2018): "Esperienze ed attività post-sisma: la risposta delle strutture in c.a.";
- University of Technology, Rzeszow - Poland (2017), PhD Lectures: "Composites for structural strengthening of existing constructions: basis of design and experimental validation";
- 3rd International Learning from Earthquakes (LFE) Workshop, Christchurch, New Zealand, 2016;
- Workshop organized by EAEE "WG1: Future directions for Eurocode 8", Istanbul, Turkey, 2014;
- Workshop organized by EERI "Post-Earthquake Data Collection", Anchorage Alaska US, 2014;
- Workshop organized by ReLUIIS "Post Earthquake Assessment & Reconstruction: Seismic Engineering Perspective", L'Aquila, Italy, 2014

### Other information

Co-funder, with his former PhD students *Ciro Del Vecchio* and *Raffaele Frascadore*, of the company SEISMART, Sustainable Engineering Innovative Solutions & Materials for Anti-seismic Reliable Techniques ([www.seismart.it](http://www.seismart.it)), Spinoff Company of the University of Naples Federico II.

### Bibliometric indexes

(updated March 20th, 2018):

Scopus database:

h-index is 20, excluding self citations of all authors, h-index is 16.

Documents: 78

Total citations 1,029 by 78 documents.

ISI Web of Knowledge database:

Total Articles in Publication List: 56

Sum of the Times Cited: 664

h-index: 15

Google Scholar:

h-index is 23  
Total citations 1590.

**Main Research areas:**

- Seismic Engineering: structural vulnerability, non linear behavior of structures, behavior of RC members under biaxial actions, non linear methods (pushover, nonlinear dynamics modeling), fragility curves on existing structures.
- Strengthening of PC girders and RC structures with Fiber-Reinforced Polymers (FRP): FRP behavior under extreme environmental conditions, debonding modeling and experimentation, FRP-strengthened PC girders, FRP-strengthened RC columns and beam-columns joints under cyclic actions; pseudo dynamic tests on FRP-strengthened full scale structures;
- Strengthening of masonry structures with Fiber-Reinforced Polymers (FRP) and Fabric Reinforced Cementitious Matrix (FRCM): FRP connections on masonry members; FRP-wrapped masonry columns under compressive actions; out-of-plane behaviour of masonry walls strengthened with composite connections; in-plane behavior of masonry walls strengthened with FRCM systems; dynamic tests on masonry structures;
- Repair/strengthening of RC structures with Fiber Reinforced Cementitious Composite (FRCC): strengthening of RC columns with FRC jackets; FRC-strengthened beam-columns joints under cyclic action.
- Repairability of existing structures: post-earthquake damage and repair costs, expected seismic losses, performance loss of earthquake damaged RC buildings;
- Protection of historical monumental buildings: in – situ testing, health monitoring systems, innovative methodologies and technologies for knowledge, management and restoration of Cultural Heritage.