

# Stefano De Santis

BEng, MScEng, PhD, CEng

## Curriculum Vitae



### OVERVIEW AND CURRENT POSITION

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Stefano De Santis is a tenured researcher (RTD/B) in Structural Engineering (Tecnica delle Costruzioni) at the Department of Engineering of Roma Tre University, in Rome, Italy. He is a member of the Structures Research Group, of the Scientific Board of the PhD School in Civil Engineering, and appointed teacher for the Course of Design of Steel and Reinforced Concrete Structures. He got his BSc, MSc and PhD in Civil Engineering at Roma Tre University. Before getting his current position, he was a post-doc research assistant at the University of the West of England (UWE) at Bristol, UK (2012), and at Roma Tre University (2013-2017), and researcher (RTD/A) at Roma Tre University (2018). Stefano got the National Scientific Qualification (ASN) as Associate Professor in Structural Engineering (20/09/2018).

Stefano's scientific interests and expertise include laboratory and field testing of traditional and innovative materials and of full-scale structural members (both unreinforced and reinforced) under static and dynamic/seismic loading, rehabilitation and strengthening of structures with composites, seismic assessment of existing constructions including bridges and cultural/architectural heritage, analytical/numerical modelling, testing methods and acceptance criteria for composite materials, innovative measurement techniques for laboratory testing, and structural health monitoring and condition assessment.

On these topics, Stefano coordinated scientific activities involving research and industrial partners and is author of about 70 scientific publications including papers in International Journals, conference proceedings, and a book on masonry arch bridges based on his PhD Thesis, which was awarded a Special Mention at the Edoardo Benvenuto Prize (10th edition, 2012). He presented his works in national and international conferences and has been invited to give lectures and seminars. Stefano is review editor for the section on Structural Materials included in the International Journals *Frontiers in Materials* and *Frontiers in Built Environments* and member of the scientific committee of International Conferences. He has been supervisor of about 40 PhD and MSc Theses.

In February 2017, Stefano was Visiting Researcher at the Department of Civil and Structural Engineering of the University of Sheffield, with a Short Term Scientific Mission grant awarded by the Cost Action TU1207. In October 2016, Stefano was visiting researcher at the University of Miami, within the Science and Technology Cooperation Project "Composites with inorganic matrix for sustainable strengthening of architectural heritage".

Stefano is (or has recently been) involved in International Research Projects and is member of Technical Committees, including the RILEM TC 250-CSM, the RILEM TC 223-MSC, the ASTM D30 Committee, the COST Action TU1207, and the UIC Research Group on Masonry Arch Bridges. Stefano is member of standardization boards, including the ACI 549-0L Committee "Design and Construction of Externally Bonded Fabric Reinforced Cementitious Matrix (FRCM) Systems for Repair and Strengthening Masonry Structures", the CNR Committee for the development of design recommendations for externally bonded reinforcements with FRCM composites, and the Committee "Guidelines for the design, construction and acceptance testing of FRCM structural reinforcements" (Commissione Relatrice del CSLP "Linee Guida per la progettazione, l'esecuzione e il collaudo di interventi di rinforzo strutturale tramite l'impegno di FRCM").

## RESEARCH ACTIVITIES AND EXPERTISE

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Most of Stefano's studies are, or have been, devoted to the development of innovative and sustainable materials for the rehabilitation of historic structures and architectural heritage in earthquake prone areas, of reliable testing procedures and acceptance criteria for composite strengthening systems, also with the help of innovative measurement and monitoring techniques, of effective methods for the assessment of existing structures and their reinforcement with externally bonded composites. His research aims at contributing to the advancement of knowledge as well as to its transfer to industry and engineering practice, for a direct exploitation of scientific outcomes. Within such approach, Stefano gained experience and highly contributed to the activities of his research groups in the following specific topics:

### *Characterization and acceptance of composite materials for the reinforcement of structures*

Stefano coordinates the experimental activities within his research group on composite materials, some of which are performed within research agreements with industrial partners and/or other scientific institutions. He performed numerous investigations on the mechanical properties, durability and composite-to-substrate shear bond performance of strengthening systems with both organic (fibre/steel reinforced polymer, FRP/SRP)<sup>1,2,3,4,5</sup> and inorganic (textile reinforced mortar/ steel reinforced grout, TRM/SRG)<sup>6,7,8,9</sup> matrices. Stefano originally contributed to many of the first publications on these issues, which have then been taken as a reference, and cited, by several other researchers. More recently, Stefano contributed to the coordination and management of a Round Robin Test (RRT) initiative within the Rilem TC 250-CSM. The RRT was devoted to investigate the tensile and bond behaviour of mortar-based composites with aramid, carbon, basalt, glass, PBO and steel textiles, embedded into cement, lime and geopolymer mortars, and involved 20 European institutions and 11 industrial partners. Stefano developed most of the work related to design of testing setup and TRM application, instrumentation and test execution, processing and interpretation of test data<sup>10,11,12,13</sup>. As a further outcome of the RRT and of the other studies carried out on this topics, Stefano contributed to the development of test methods for the mechanical characterization of TRM composites<sup>14</sup>, of acceptance procedures<sup>15,16</sup>, and of the Recommendation of Rilem TC 250-CSM "Test method for Textile Reinforced Mortar to substrate bond characterization"<sup>17</sup>. Within the ASTM D30 Committee, Stefano is contributing to the development of a standard method for performing shear bond tests on composite materials. Finally, Stefano carried out a wide study on the bond behaviour of SRG composites on curved substrates for the reinforcement of masonry vaults, which included both laboratory and field tests<sup>18</sup>.

### *Static and dynamic tests of full-scale structures reinforced with composites*

Stefano carried out a wide experimental research on full-scale vault specimens, strengthened with different SRG<sup>19</sup> and basalt<sup>20</sup> TRM composites, to investigate the improvement in load carrying and deflection capacity provided by innovative and sustainable strengthening systems, considering the contribution of buttresses and backfill. Stefano coordinated this activity by designing the experimental setup, performing the tests and processing test data. Stefano carried out three shake table test sessions in the last 3 years on full-scale masonry walls and structural subassemblies to study their seismic behaviour as well as the effectiveness of different strengthening solutions, ranging from traditional tie-bars to innovative mortar-based composites<sup>21</sup>. The most recent studies were devoted to the investigation of the vertical bending seismic response of rubble stone masonry and tuff masonry walls, reinforced with SRG or basalt TRM<sup>22</sup>, and to the analysis of the influence of openings and roof on masonry structures before and after the application of Composite Reinforced Mortars (CRM) systems, comprising GFRP meshes and lime mortar. In these shake table tests, Stefano took care of the design of testing setup and instrumentation, definition of seismic inputs, design of the reinforcement with

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<sup>1</sup> Compos Part B: Eng, 2016;104:87-110

<sup>2</sup> Compos Struct 2016;152:499-515

<sup>3</sup> Mater Struct, 2016;49(7):2581-2596

<sup>4</sup> Mater Struct, 2016;49(7):2563-2580

<sup>5</sup> Compos Part B: Eng, 2018;153:194-201

<sup>6</sup> Compos Struct, 2015;134:533-548

<sup>7</sup> Compos Part B: Eng, 2015;68:401-413

<sup>8</sup> Mater Struct, 2014;47(12):2021-2037

<sup>9</sup> Constr Build Mater 2021 To appear

<sup>10</sup> Compos Part B: Eng, 2017;127:175-195

<sup>11</sup> Compos Part B: Eng, 2017;128:1-18

<sup>12</sup> Compos Part B: Eng, 2017;127:100-120

<sup>13</sup> Front Built Env, 2020;6:5

<sup>14</sup> Compos Part B: Eng, 2017;127:121-132

<sup>15</sup> Compos Part B: Eng, 2015;78:497-506

<sup>16</sup> J Compos Constr, 2018;22(6):04018048

<sup>17</sup> Mater Struct, 2018;51:95

<sup>18</sup> Constr Build Mater 2017;150:367-382

<sup>19</sup> Compos Part B: Eng, 2018;141:20-36

<sup>20</sup> Int J Archit Herit 2019;13(7):1061-1077

<sup>21</sup> Earthq Eng Struct Dyn, 2016;45(2):229-251

<sup>22</sup> Bull Earth Eng 2019;17(11):6265-6300

SRG/TRM/CRM, test execution, and data processing. Both the full-scale static tests on masonry vaults and the seismic tests were carried out within research agreements with industrial partners<sup>23</sup>.

#### *Assessment and design methods for the rehabilitation and seismic retrofitting of architectural heritage*

Stefano worked on experimental and numerical methods for the seismic assessment of masonry structures, with particular reference to the analysis of local collapse mechanisms such as the out-of-plane overturning of walls and the seismic performance of masonry vaults, also taking advantage of the expertise gained during post-earthquake assessment of existing buildings<sup>24</sup>. The research is devoted also to the development of assessment procedures and analytical/numerical modelling tools, suitable for both research and engineering practice purposes, for the protection of historic structures, monuments and architectural heritage in earthquake prone areas, in compliance with the principles of conservation and restoration. Stefano is currently involved in research projects (e.g., Science and Technology Cooperation Project titled “Composites with inorganic matrix for sustainable strengthening of architectural heritage”) and standardization committees (e.g., ACI 549 - Rilem TC 250 0L Liaison Subcommittee, Gruppo di Studio CNR, Commissione Relatrice CSLPP) for the development of design guidelines for the construction of externally bonded mortar-based composites for repair and strengthening masonry structures<sup>25,26</sup>.

#### *Innovative measurement/monitoring techniques for laboratory tests and structural health monitoring*

Stefano' expertise includes the development of innovative contactless methods for displacement/strain measurement, such as the Digital Image Correlation techniques for quasi-static laboratory tests on both small-scale specimens<sup>27</sup> and full-scale mock-ups, and the 3DVision motion capture system for shake table tests<sup>28</sup>. Stefano also worked on the application of the Acoustic Emission (AE) monitoring technique. AE was applied to small-scale laboratory tests on masonry specimens subjected to compression and shear under quasi-static and long-term fatigue loading<sup>29</sup>, as well as in the field on a masonry arch bridge to identify its response to traffic loading, its structural condition and the effectiveness of repair works<sup>30</sup>.

#### *Mechanical behaviour of masonry, modelling of masonry structures and seismic performance of the building stock*

Stefano carried out an experimental investigation on the compressive behaviour of brick masonry under cyclic compression and bending. Experimental results guided the calibration and validation of uniaxial constitutive relationships, which were then used within a fibre beam based model for the structural analysis of arch structures<sup>31</sup>. As a development of this activity, Stefano carried out a study on the assessment of masonry arch bridges under traffic loads<sup>32</sup> and seismic actions<sup>33</sup>. Stefano developed most of the work related to collection of data of existing bridges, numerical modelling, definition of seismic input, validation with analytical solutions. This research also led to the publication of a wide state-of-the-art review<sup>34</sup>. Within the UIC Research Group “Assessment of Masonry Arch Bridges” Stefano contributed to the development of the UIC leaflet 778-3R “Inspection, assessment and maintenance of masonry arch bridges”. Stefano worked at the calibration and validation of a modelling strategy for rubble stone masonry walls under seismic loading through the Distinct Element Method (DEM)<sup>35</sup>. Stefano was involved in a research project on innovative seismic resistant deck-to-pier connections for steel-concrete composite bridges<sup>36</sup>, taking care of the experimental tests on full-scale mock-ups.

## **COMMITTEES, PROJECTS, COLLABORATIONS, TEACHING**

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### ***Activity as editor and reviewer, participation to Scientific Committees of International Conferences***

Stefano is member of the Editorial Board as a Review Editor for Frontiers in Materials International Journal, sections Structural Materials, Built Environment and Earthquake Engineering.

Stefano regularly contributes as a reviewer to the following Journals: Materials and Structures, Construction and Building Materials, Composite Structures, Composite Part B: Engineering, International Journal of Architectural

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<sup>23</sup> Int J Archit Herit, 2017;11(1):143-160

<sup>24</sup> Bollett Geof Teor Appl, 2017;58(4):353-376

<sup>25</sup> Constr Build Mater 2020;240:117946

<sup>26</sup> Constr Build Mater 2021;279:122452.

<sup>27</sup> Compos Struct, 2017;160:670-688

<sup>28</sup> Earthq Struct, 2016;10(1):53-71

<sup>29</sup> Masonry Int, 2013;26(2):41-48

<sup>30</sup> NDT & E Int, 2013;55:64-74

<sup>31</sup> Int J Archit Herit, 2010;4(2):115-137

<sup>32</sup> Int J Archit Herit, 2014;8(3):452-474

<sup>33</sup> Earthq Eng Struct Dyn, 2014;43(11):1661-1681

<sup>34</sup> Struct Infrastruct Eng, 2016;12(11):1439-1464

<sup>35</sup> Int J Archit Herit, 2019;13(7):1110-1123

<sup>36</sup> J Constr Steel Res, 2018;150:31-50

Heritage, Proceedings of the ICE (Institution of Civil Engineers): Bridge Engineering, Fibers, Engineering Structures, Case Studies in Construction Materials.

Stefano is, or has been, member of the Scientific Committees of the following international conferences:

- SAHC2018 11th International Conference on Structural Analysis of Historical Constructions. Cusco, Peru, 11-13/09/2018
- Baltic Conference Series
- EMAHP2016 Engineering and Medical Aspects of the Humans Protections against Environmental Influences. Cracow, Poland, 16-18/11/2016

### ***Participation to scientific and/or institutional Technical Committees***

Stefano is, or has been, involved in the activities of the following Technical Committees:

- Rilem TC 223-MSC Masonry Strengthening with Composites (2008-2012), Rilem TC 250-CSM Composites for the Sustainable Strengthening of Masonry (2012-2018) and Rilem TC IMC Inorganic Matrix Composites (2018 - present) (Rilem member since 2017).
- CSLLPP (Board of Public Works) Committee "Guidelines for the design, construction and acceptance testing of FRCC structural reinforcements" (Commissione Relatrice del Consiglio Superiore dei Lavori Pubblici "Linee Guida per la progettazione, l'esecuzione e il collaudo di interventi di rinforzo strutturale tramite l'impiego di FRCC") (2019).
- CNR (National Research Council) Standardization Committee for the development of design guideline for externally bonded reinforcements with FRCC composites (Gruppo di Studio CNR per la redazione delle Istruzioni per la Progettazione, l'Esecuzione ed il Controllo di Interventi di Consolidamento Statico mediante l'utilizzo di sistemi di rinforzo FRCC) (2017-2019)
- ACI 549 - Rilem TC 250 0L Liaison Subcommittee Design and Construction of Externally Bonded Textile Reinforced Mortar (TRM) and Steel Reinforced Grout (SRG) Systems for Repair and Strengthening Masonry Structures (2016-2019).
- ASTM International Committee D30 on Composite Materials - Subcommittee D30.10 on Composites for Civil Structures (2017).
- Committee of the Board of Engineering of Rome "Engineering applied to architectural and archaeological heritage" (2017-present)
- Committee of the Board of Engineering of Rome "Composite and innovative materials" (2013-2016)
- UIC International Railways Union AMAB RG Assessment of Masonry Arch Bridges (2011-2014).

### ***Research projects***

The research activity includes (or has included) the involvement in the following research projects:

- Research project SICURA – Tecnologie sostenibili per la protezione sismica del patrimonio culturale (Sustainable technologies for the seismic protection of cultural heritage) funded by Regione Lazio. To be started (2018-2020). *Role: Team member.*
- Research project SISMI - Tecnologie per la messa in sicurezza e la ricostruzione dei centri storici in area sismica (Technologies for the protection and reconstruction of historic centres in earthquake prone areas) funded by Regione Lazio (2017-2019). *Role: Task leader.*
- Short Term Scientific Mission "Best practice and key challenges in bond tests on composite reinforcements" with a grant awarded by the Cost Action TU1207 Next generation guidelines for composites in constructions (Grant N. COST-STSM-ECOST-STSM-TU1207-130217-082433). *Role: Principal Investigator.*
- ITALY – USA SCIENCE AND TECHNOLOGY COOPERATION 2016-2018 Composites with inorganic matrix for sustainable strengthening of architectural heritage (Topic: Technologies Applied to Cultural and Natural Heritage) Funded by the Italian Ministry for Foreign Affairs (MAECI, Grant ID PGR00234). *Role: Team member.*
- SMART ENVironments Integrated methodologies for Seismic Assessment of Cultural Heritage and Sustainable retrofitting strategies. *Role: Team member.*
- ReLUIS 2014-2018 Line 1: Masonry constructions. Line 6: innovative materials for the seismic retrofitting of existing structures. *Role: Team member.*
- COST Action TU1207 2013-2017: Next Generation Design Guidelines for Composites in Construction. *Role: Team member.*
- PRIN 2011-2013: Methodologies for analysis and modelling of multi-leaf masonry walls for the conservation of historic built heritage. *Role: Team member.*
- UIC 2011-2013: Assessment of masonry arch bridges. *Role: Team member.*
- ReLUIS 2010-2013 Line 1: Tools for the assessment and management of the seismic risk of the built heritage. *Role: Team member.*
- EPSRC 2007-2011: Fatigue behaviour and remaining service life of masonry arch bridges. *Role: Team member.*

- ReLUI5 2005-2008 Line 1: Safety assessment and vulnerability reduction of masonry buildings - Line 3: Safety assessment and vulnerability reduction of existing bridges. *Role: Team member.*
- CNR 2008: Guidelines for the structural analysis and the strengthening of masonry bridges. *Role: Team member.*
- PRIN 2003-2005: Safety, conservation and management of masonry bridges. *Role: Team member.*

### ***Invited lectures***

Stefano has been invited to give the following lectures and seminars:

- Semi key-note speaker at the 17th IB<sup>2</sup>MAC International Brick&Block Masonry Conference “Unconventional measurement techniques in experiments on masonry”, Cracow, PL (5-8/07/2020).
- Invited speaker for the seminars “Experimental characterization of Textile Reinforced Mortars” and “Retrofitting historic structures with Textile Reinforced Mortars” at the University of Sheffield, Sheffield, UK (16-23/02/2017).
- Invited speaker at the meeting of the Edoardo Benvenuto awards. Department of Architecture and Design of the University of Genoa, Italy (22/03/2017)
- Invited speaker at the COST Action TU1207 – Rilem TC 250-CSM Joint Workshop on Textile Reinforced Mortars for the Strengthening of Masonry Structures “Out-of-plane strengthening of masonry walls with mortar-based composites. University of Salento, Lecce, Italy (21/05/2015).
- Invited lecturer at the International Masterclass on Masonry Arch Bridge Assessment. Title of the lecture “Structural analysis and assessment of masonry arch bridges. Italian experience in research and practice” University of the West of England, Bristol, UK (24-25/05/2012).

### ***Presentations at national and international conferences***

Stefano presented his works at the following conferences:

- 17th IB<sup>2</sup>MAC International Brick&Block Masonry Conference. Cracow, Poland, 5-8 July 2020.
- MuRiCo6 6th International Conference on mechanics of masonry structures strengthened with composite materials. Bologna, Italy, 26-28 June 2019.
- CICE 2018, 9th International Conference on Fibre-Reinforced Polymer (FRP) Composites in Civil Engineering. Paris, France, 17-19 July 2018.
- IMC 2018, 10th International Masonry Conference. Milan, Italy, 9-11 July 2018.
- MuRiCo5 5th International Conference on mechanics of masonry structures strengthened with composite materials. Bologna, Italy, 28-30 June 2017.
- SAHC’16 10th International Conference on Structural Analysis of Historic Constructions. Leuven, Belgium, 13-16 September 2016.
- 16IB<sup>2</sup>MAC 16th International Brick&Block Masonry Conference. Padova, Italy, 26-30 June 2016.
- ACE 2015 2nd International Symposium on Advances in Civil Engineering. Vietri sul Mare, Italy, 12-13 June 2015.
- MuRiCo4 4th International Conference on mechanics of masonry structures strengthened with composite materials. Ravenna, Italy, 9-11 September 2014
- PROHITECH’14 2nd International Conference on Protection of Historical Constructions. Antalya, Turkey, 7-9 May 2014.
- ARCH’13 7th International Conference on Arch Bridge. Split, Croatia, 2-4 October 2013.
- WCEE’12 15th World Conference on Earthquake Engineering. Lisbon, Portugal, 24-28 September 2013.
- XIV Convegno di Ingegneria Sismica ANIDIS 2011. Bari, Italy, 18-22 September 2011.
- ARCH’10 6th International Conference on Arch Bridges. Fuzhou, China, 11-13 October 2010.
- Convegno WonderMasonry 2009. Ischia, Italy, 8-10 October 2009.
- XIII Convegno di Ingegneria Sismica ANIDIS 2009. Bologna, Italy, 28 June-2 July 2009
- HMC’08 Historical Mortar Conference. Lisbon, Portugal, 24-26 September 2008.

### ***Major collaborations***

Stefano’s research activity includes the following collaborations:

- Prof. Antonio Nanni, University of Miami, Miami, US  
Collaboration on acceptance of Textile Reinforced Mortar (TRM) composites and on design criteria for repair and strengthening existing structures with TRMs
- Prof. Arkadiusz Kwiecien, Cracow University of Technology, Cracow, Poland  
Collaboration on Digital Image Correlation and on composite materials with highly deformable matrices
- Prof. Maurizio Guadagnini, University of Sheffield, Sheffield, UK  
Collaboration on composite materials with natural fibres and on multi-ply steel reinforcements
- Proff. Bahman Ghiassi and Georgina Thermou, University of Nottingham, Nottingham, UK  
Collaboration on mechanical characterization of TRM and SRG reinforcements

- ENEA, Italian Agency for New Technologies and Sustainable Development, Italy  
Collaboration for shake table tests on full-scale structures, unconventional optical monitoring systems (3DVision)
- Prof. Thanasis Triantafyllou, prof. Corina Papanicolaou  
Collaboration on test methods for the characterization of composite materials
- Dr. Adrienn Tomor, University of the West of England, Bristol, UK  
Mistras NDT Products & Systems, Inc. (Cardiff, UK)  
Collaboration on Acoustic Emission technique and structural health monitoring
- Cooperation with industrial partners (Fibrenet srl, G&P Intech srl, Kerakoll SpA, Ruredil SpA, Kimia SpA) for the development, testing and qualification of composite materials and reinforcement solutions. These activities led to the publication of scientific papers and to the achievement of formal technical qualification certificate for FRP and SRP systems.
- Cooperation with Italian Civil Protection and Italian National Fire Corps for post-earthquake emergency activities related to structural assessment, survey of damage, and design of securing measures on residential and commercial buildings, churches, architectural heritage and monuments.

### ***Professional activity as practitioner***

Stefano works as a practicing engineer and is involved in the design of post-earthquake repair, structural rehabilitation and seismic retrofitting of historic masonry buildings and churches. The most important works include, amongst others, Palazzo Ciolina-Ciampella and San Bernardino cathedral in the city centre of L'Aquila, Italy. These activities included structural and crack pattern survey, field tests during the design and the execution phases, numerical modelling of structural members (e.g., vaults, walls, floors) for seismic assessment, design of strengthening works with traditional and innovative technologies, such as mortar-based externally bonded composite materials.

### ***Teaching activity and supervision of PhD and postgraduate students***

Stefano is currently in charge of the following courses:

- **Design of Steel and Reinforced Concrete Structures.** BSc course in Civil Engineering at the Department of Engineering of Roma Tre University (Tecnica delle Costruzioni, 72h, 9 CFU, SSD Icar/09)
- **Special Structures.** MSc course in Civil Engineering for Natural Risk Mitigation at the Department of Engineering of Roma Tre University (Complementi di Tecnica delle Costruzioni, 63h, 7 CFU, SSD Icar/09)

Stefano has been doing teaching activity since 2005. He has been in charge of exercise lectures within undergraduate and postgraduate courses of Structural Mechanics and Design of Steel and Reinforced Concrete Structures, Rehabilitation of Structures, Design of Bridges, and Earthquake Engineering at the Faculties of Engineering and of Architecture, of Roma Tre University (SSD ICAR/09). The main teaching activities include:

- Teaching assistant, Structural Mechanics and Design of Steel and R.C. Structures (undergraduate course), Faculty of Engineering, Roma Tre University, Rome, Italy (2005-2016)
- Teaching assistant, Earthquake Engineering (postgraduate course) Faculty of Engineering, Roma Tre University, Rome, Italy (2016-2017)
- Teaching assistant, Rehabilitation of Structures (postgraduate course) Faculty of Engineering, Roma Tre University, Rome, Italy (2013-2016)
- Teaching assistant, Design of Bridges (postgraduate course) Faculty of Engineering, Roma Tre University, Rome, Italy (2013-2014)
- Teaching assistant, Design of Steel and R.C. Structures (undergraduate course) Faculty of Architecture, Roma Tre University, Rome, Italy (2012-2013)

Stefano is member of the Scientific Board of the PhD School in Civil Engineering and supervised 2 PhD Students (one ongoing and one concluded in the Doctor Europaeus programme, co-supervised by Dr. M. Guadagnini, Univ. of Sheffield, UK) and more than 50 postgraduate students.

Since 2013, Stefano is member of the Commission for the Examination for the professional qualification in Engineering.

## **PREVIOUS EMPLOYMENTS**

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2019-present	Tenured researcher in Structural Engineering at the Department of Engineering of Roma Tre University (Ricercatore Universitario a tempo determinato ai sensi dell'art. 24, C. 3, lett. B) della legge 240/2010), SC 08/B3 - SSD ICAR 09 -Tecnica delle Costruzioni.
2018-2019	Researcher in Structural Engineering at the Department of Engineering of Roma Tre University (Ricercatore Universitario a tempo determinato ai sensi dell'art. 24, C. 3, lett. A) della legge

- 240/2010), SC 08/B3 - SSD ICAR 09 -Tecnica delle Costruzioni. He waived before the end of the contract.
- 2018 Research Contract as Consultant with the Department of Engineering of Roma Tre University “Sviluppo e stesura di linee guida per le applicazioni dei sistemi FRCC/TRM nel rinforzo delle strutture esistenti in muratura”. (Development of design guidelines for the reinforcement of existing masonry structures with for FRCC/TRM systems).
- 2018 Teaching contract as appointed professor of Design of Steel and Reinforced Concrete Structures within the BSc course in Civil Engineering at the Department of Engineering of Roma Tre University (Tecnica delle Costruzioni, 72h, 9 CFU, SSD Icar/09).
- 2016-2017 Research assistant at the Department of Engineering, Roma Tre University, within a research project titled “Mortar-based composites for the sustainable strengthening of architectural heritage”.
- 2017 Research Contract as Consultant with the Department of Engineering of Roma Tre University “Sperimentazione in situ ed in laboratorio di volte in foglio rinforzate con sistemi Steel Reinforced Grout” (Field and laboratory testing of masonry vaults strengthened with Steel Reinforced Grout systems).
- 2016 Research Contract as Consultant with the Department of Engineering of Roma Tre University “Controllo di accettazione di Compositi FRCC-Fabric Reinforced Cementitious Matrix” (Qualification and Acceptance of FRCC Composites) (carried out in addition to the main activity as post-doc research assistant).
- 2011-2016 Research assistant at the Department of Engineering, Roma Tre University within a research project titled “Criteria and methodologies for the seismic assessment of masonry structures”.
- 2015 Research Contract as Consultant with the Department of Engineering Roma Tre University “Numerical simulations for fragility curves evaluation of steel storage tanks” (carried out in addition to the main activity as post-doc research assistant).
- 2011 Research assistant at UWE (University of the West of England) at Bristol. The research activity was related to a 3-year research project on “Fatigue behaviour and remaining service life of masonry arch bridges” and focused on experimental tests on the fatigue strength of masonry and on the condition assessment of masonry bridges with the acoustic emission monitoring technique.
- 2007-2010 Ph.D. in Science of Civil Engineering. Roma Tre University, Department of Structures. Title of the Doctoral Thesis: “Load carrying-capability and seismic assessment of masonry bridges”. Position provided with a 3-year scholarship.

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## EDUCATION, QUALIFICATIONS, PROFESSIONAL LICENCES

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### *Education*

- 2018 National Scientific Qualification as Associate Professor in Structural Engineering (Abilitazione Scientifica Nazionale alle funzione di Professore di II Fascia, SC 08/B3 – Tecnica delle Costruzioni). 20 September 2018.
- 2007-2011 Ph.D. in Civil Engineering. Roma Tre University, Department of Structures. Title of the Doctoral Thesis: “Load carrying-capability and seismic assessment of masonry bridges”. 11 April 2011. The Ph.D. Thesis was awarded a special mention in the final judgement of the jury of the Edoardo Benvenuto Prize (10th Edition, year 2012).
- 2005-2007 Master’s Degree in Engineering for the Protection of Territory from Natural Risks – Specialization Area: Structures and Seismic Risk, Roma Tre University. Mark: 110/110 cum Laude. Title of the thesis: “Modelling of masonry walls as thin plates”. Homogenization and limit analysis of periodic masonry walls. 4 October 2007.
- 2002-2005 Bachelor’s Degree in Civil Engineering – Specialization Area: Civil Buildings, Roma Tre University. Mark: 110/110 cum Laude. Title of the thesis: “Analysis of masonry elements subjected to eccentric axial load through the fiber beam model: determination of material properties”. Experimental investigation and numerical modelling in of arch bridge historic masonry. 28 September 2005.
- 2002 High school leaving qualifications, Senior high school specializing in science education “Amedeo Avogadro”, Rome. Mark: 100/100.
- 2001 Stefano was selected to take part to a cultural exchange agreement between Italy and USA and spent 1 month in Pittsburgh, PA, USA as an exchange student.

### ***Other titles***

- 2007 GRE (Graduate Record Examination) General Test, ETS. Mark: 800/800 Quantitative section (94 percentile) and 550/800 Verbal section (80 percentile).
- 2007 TOEFL (Test of English as a Foreign Language), ETS. 104/120.
- 2002 FCE (First Certificate in English), University of Cambridge. Mark: Grade B.  
Trinity College of London: Grade 7 (1998), 6 (1997), 5 (1996), 4 (1995), 3 (1994).

### ***Professional licences***

- 2009 Licence to the professional activity of Civil and Environmental Engineer (February 2008). Stefano is registered in the Board of Engineers of Rome, Section A (Civil and Environmental Engineering) at n. 30084 (19/01/2009).

### ***Scholarships***

- 2007-2010 3-year Ph.D. scholarship
- 2004; 2007 Tuition fees exemption

## **LANGUAGE SKILLS**

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- English: fluent knowledge of both written and spoken language (FCE and TOEFL exams).
- French: basic knowledge of written and spoken language.

## **COMPUTER SKILLS**

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- OS: Windows.
- Daily use of Internet Explorer, web browser and electronic mail SWs.
- Daily use of all the SWs of MS-OFFICE.
- Other SWs: SAP2000, Straus7, OpenSees, GID, AutoCAD, Matlab, MathCad, Mathematica, Comsol Multiphysics (FemLab), Paratie, Geoslope, VCASLU, EC2, DM96, ProShake, SeismoSignal, Ring, Maple, USC\_RC, Photoshop, Rexel, AEWin.
- Programming skills in the following languages: Matlab, Tcl/Tk, OpenSees, Mathematica (advanced level); C++, C (basic level)

## **POST-GRADUATE / DOCTORAL-LEVEL COURSES ATTENDED**

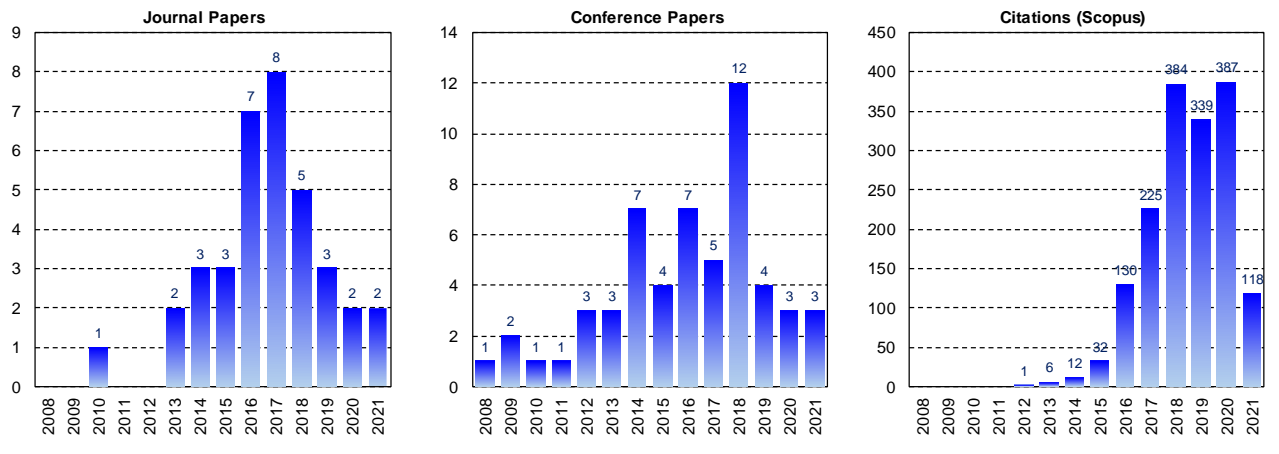
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- 2015 • Seismic Assessment of Masonry Structures (Rome).
- 2011 • Scientific and technical calculus in C++ progr. lang. - Caspur HPC High Performance Computing (Rome).
- 2010 • Masonry Arch Bridges Masterclass - University of the West of England (Bristol).
- Scientific and technical calculus in C progr. lang. - Caspur HPC High Performance Computing (Rome).
- Matlab for the scientific calculus - Caspur HPC High Performance Computing (Rome).
- 2009 • Numerical methods in seismic engineering - CISM (Udine).
- Masonry Constructions. Modeling, seismic reliability and conservation of ordinary and monumental buildings (Rome).
- 2008 • Finite elements - Prof. V. Ciampi, Dott.ssa D. Addressi (Rome).
- Experimental and numerical methods in seismic engineering - Prof. O. Bursi (Trento).
- Non-linear analysis - Prof. V. Ciampi, Dott.ssa D. Addressi (Rome).
- Arch bridges - Prof. R. Di Marco (Rome).
- A variational approach to fracture mechanics - Prof. J.J. Marigo (Rome).
- Aleatory dynamics - Prof. R. Giannini (Rome).



**Overview of scientific publications and bibliometric indicators**

- Journal papers: 36 (all peer-reviewed International Journals)  
1 as single author, 14 as first author (with co-authors), 6 without the PhD supervisor
- Conference papers: 56 (48 International Conferences, 8 National Conferences, all with peer review)
- National Journals: 3
- Citations: 1634 (source: Scopus)
- H-index: 23 (source: Scopus)



**International Referred Journals**

2021 Thermou GE, De Santis S, de Felice G, Alotaibi S, Roscini R, Hajirasouliha I, Guadagnini M. Bond Behaviour of Multi-Ply Steel Reinforced Grout Composites. *Construction and Building Materials*. To appear.

Meriggi P, De Santis S, Fares S, de Felice G. Design of the shear strengthening of masonry walls with fabric reinforced cementitious matrix. *Construction and Building Materials* 2021;279:122452. DOI: 10.1016/j.conbuildmat.2021.122452.

2020 de Felice G, D'Antino T, De Santis S, Meriggi P, Roscini F. Lessons learned on the tensile and bond behaviour of Fabric Reinforced Cementitious Matrix (FRCM) composites. *Frontiers in Built Environment*, section Earthquake Engineering 2020;6:5. DOI: 10.3389/fbuil.2020.00005.

Meriggi P, de Felice G, De Santis S. Design of the out-of-plane strengthening of masonry walls with fabric reinforced cementitious matrix composites. *Construction and Building Materials* 2020;240:117946. DOI: 10.1016/j.conbuildmat.2019.117946.

2019 De Santis S, De Canio G, de Felice G, Meriggi P, Roselli I. Out-of-plane seismic retrofitting of masonry walls with Textile Reinforced Mortar composites. *Bulletin of Earthquake Engineering* 2019;17(11):6265-6300. DOI: 10.1007/s10518-019-00701-5.

Meriggi, P., de Felice G., De Santis S, Gobbin, F., Mordanova, A., Pantò, B. Distinct element modelling of masonry walls under out-of-plane seismic loading. *International Journal of Architectural Heritage* 2019;13(7):1110-1123. DOI: 10.1080/15583058.2019.1615152.

De Santis S, Roscini F, de Felice G. Retrofitting of masonry vaults by basalt-textile reinforced mortar overlays. *International Journal of Architectural Heritage* 2019;13(7):1061-1077. DOI: 10.1080/15583058.2019.1597947.

2018 De Santis S, Stryszewska T, Bandini S, de Felice G, Hojdis Ł, Krajewski P, Kwiecień A, Roscini F, Zając B. Durability of Steel Reinforced Polyurethane-to-substrate bond. *Composites Part B: Engineering* 2018;153:194-204. DOI: 10.1016/j.compositesb.2018.07.043.

Abbiati G, Cazzador E, Alessandri S, Bursi OS, Paolacci F, De Santis S. Experimental characterization and component-based modeling of deck-to-pier connections for composite bridges. *Journal of Constructional Steel Research*, 2018;150:31-50. DOI: 10.1016/j.jcsr.2018.08.005.

de Felice G, Aiello MA, Caggegi C, Ceroni F, De Santis S, Garbin E, Gattesco N, Hojdis Ł, Krajewski P, Kwiecień A, Leone M, Lignola GP, Mazzotti C, Oliveira DV, Papanicolaou C, Poggi C, Triantafyllou T, Valluzzi MR, Viskovic A. Recommendation of RILEM TC 250-CSM: Test method for Textile Reinforced Mortar to substrate bond characterization. *Materials and Structures* 2018;51(4):95. DOI: 10.1617/s11527-018-1216-x.

- De Santis S, Hadad HA, De Caso y Basalo FJ, de Felice G, Nanni A. Acceptance Criteria for Tensile Characterization of Fabric Reinforced Cementitious Matrix (FRCM) Systems for Concrete and Masonry Repair. *Journal of Composites for Construction* 2018;22(6):04018048. DOI: 10.1061/(ASCE)CC.1943-5614.0000886. [S](#)
- De Santis S, Roscini F, de Felice G. Full-scale tests on masonry vaults strengthened with Steel Reinforced Grout. *Composites Part B: Engineering* 2018;141:20-36. DOI: 10.1016/j.compositesb.2017.12.023. [S](#)
- 2017 Di Ludovico M, Digrisolo A, Graziotti F, Moroni C, Belleri A, Caprili S, Carocci C, Dall'Asta A, De Martino G, De Santis S, Ferracuti B, Ferretti D, Fiorentino G, Mannella A, Marini A, Mazzotti C, Sandoli A, Santoro A, Silvestri S, Sorrentino L, Magenes G, Masi A, Prota A, Dolce M, Manfredi G. The contribution of ReLUIS to the usability assessment of school buildings following the 2016 central Italy earthquake. *Bollettino di Geofisica Teorica ed Applicata* 2017;58(4):353-376. DOI: 10.4430/bgta0192. [S](#)
- De Santis S. Bond behaviour of Steel Reinforced Grout for the extrados strengthening of masonry vaults. *Construction and Building Materials* 2017;150:367-382. DOI: 10.1016/j.conbuildmat.2017.06.010. [S](#)
- Caggegi C, Carozzi FG, De Santis S, Fabbrocino F, Focacci F, Hojdis L, Lanoye E, Zuccarino L. Experimental analysis on tensile and bond properties of PBO and Aramid fabric reinforced cementitious matrix for strengthening masonry structures. *Composites Part B: Engineering*, 2017;127:175-195. DOI: 10.1016/j.compositesb.2017.05.048. [S](#)
- Lignola GP, Caggegi C, Ceroni F, De Santis S, Krajewski P, Lourenço PB, Morganti M, Papanicolaou C, Pellegrino C, Prota A, Zuccarino L. Performance assessment of basalt FRCM for retrofit applications on masonry. *Composites Part B: Engineering*, 2017;128:1-18. DOI: 10.1016/j.compositesb.2017.05.003. [S](#)
- De Santis S, Ceroni F, de Felice G, Fagone M, Ghiassi B, Kwiecień A, Lignola GP, Morganti M, Santandrea M, Valluzzi MR, Viskovic A. Round Robin Test on tensile and bond behaviour of Steel Reinforced Grout systems. *Composites Part B: Engineering*, 2017;127:100-120. DOI: 10.1016/j.compositesb.2017.03.052. [S](#)
- De Santis S, Carozzi FG, de Felice G, Poggi C. Test methods for Textile Reinforced Mortar systems. *Composites Part B: Engineering*, 2017;127:121-132. DOI: 10.1016/j.compositesb.2017.03.016.
- de Felice G, De Santis S, Lourenço PB, Mendes N. Methods and challenges for the seismic assessment of historic masonry structures. *International Journal of Architectural Heritage*, 2017;11(1):143-160. DOI: 10.1080/15583058.2016.1238976. [S](#)
- Tekieli M, De Santis S, de Felice G, Kwiecień A, Roscini F. Application of Digital Image Correlation to composite reinforcements testing. *Composite Structures*, 2017;160:670-688. DOI: 10.1016/j.compstruct.2016.10.096. [S](#)
- 2016 De Santis S, Napoli A, de Felice G, Realfonzo R. Strengthening of structures with Steel Reinforced Polymers: A state-of-the-art review. *Composites Part B: Engineering*, 2016;104:87-110. DOI: 10.1016/j.compositesb.2016.08.025.
- Napoli A, de Felice G, De Santis S, Realfonzo R. Bond behaviour of Steel Reinforced Polymer strengthening systems. *Composite Structures* 2016;152:499-515. DOI: 10.1016/j.compstruct.2016.05.052. [S](#)
- De Canio G, de Felice G, De Santis S, Giocoli A, Mongelli M, Paolacci F, Roselli I. Passive 3D motion optical data in shaking table tests of a SRG-reinforced masonry wall. *Earthquakes and Structures*, 2016;10(1):53-71. DOI: 10.12989/eas.2016.10.1.053.
- Sarhosis V, De Santis S, de Felice G. A review of experimental investigations and assessment methods for masonry arch bridges. *Structure and Infrastructure Engineering*, 2016;12(11):1439-1464. DOI: 10.1080/15732479.2015.1136655. [S](#)
- De Santis S, Casadei P, De Canio G, de Felice G, Malena M, Mongelli M, Roselli I. Seismic performance of masonry walls retrofitted with steel reinforced grout. *Earthquake Engineering and Structural Dynamics*, 2016;45(2):229-251. DOI: 10.1002/eqe.2625. [S](#)
- de Felice G, Aiello MA, Bellini A, Ceroni F, De Santis S, Garbin E, Leone M, Lignola GP, Malena M, Mazzotti C, Panizza M, Valluzzi MR. Experimental characterization of composite-to-brick masonry shear bond. *Materials and Structures*, 2016;49(7):2581-2596. DOI: 10.1617/s11527-015-0669-4.
- Kwieceń A, de Felice G, Oliveira DV, Zajac B, Bellini A, De Santis S, Ghiassi B, Lignola GP, Lourenço PB, Mazzotti C, Prota A. Repair of composite-to-masonry bond using flexible matrix. *Materials and Structures*, 2016;49(7):2563-2580. DOI: 10.1617/s11527-015-0668-5. [S](#)
- 2015 De Santis S, de Felice G. Steel reinforced grout systems for the strengthening of masonry structures. *Composite Structures*, 2015;134:533-548. DOI: 10.1016/j.compstruct.2015.08.094.

- Ascione L, de Felice G, De Santis S. A qualification method for externally bonded Fibre Reinforced Cementitious Matrix (FRCM) strengthening systems. *Composites Part B: Engineering*, 2015;78:497-506. DOI: 10.1016/j.compositesb.2015.03.079. [S](#)
- De Santis S, de Felice G. Tensile behaviour of mortar-based composites for externally bonded reinforcement systems. *Composites Part B: Engineering*, 2015;68:401-413. DOI: 10.1016/j.compositesb.2014.09.011. [S](#)
- 2014 de Felice G, De Santis S, Garmendia L, Ghiassi B, Larrinaga P, Lourenço PB, Oliveira DV, Paolacci F, Papanicolaou CG. Mortar-based systems for externally bonded strengthening of masonry. *Materials and Structures*, 2014;47(12):2021-2037. DOI: 10.1617/s11527-014-0360-1.
- De Santis S, de Felice G. A fibre beam based approach for the evaluation of the seismic capacity of masonry arches. *Earthquake Engineering and Structural Dynamics*, 2014;43(11):1661-1681. DOI: 10.1002/eqe.2416. [S](#)
- De Santis S, de Felice G. Overview of railway masonry bridges with safety factor estimate. *International Journal of Architectural Heritage*, 2014;8(3):452-474. DOI: 10.1080/15583058.2013.826298. [S](#)
- 2013 Tomor AK, De Santis S, Wang J. Fatigue deterioration process of brick masonry. *Masonry International*, 2013;26(2):41-48. [S](#)
- De Santis S, Tomor AK. Laboratory and field studies on the use of acoustic emission for masonry bridges. *NDT & E International*, 2013;55:64-74. DOI: 10.1016/j.ndteint.2013.01.006. [S](#)
- 2010 de Felice G, De Santis S. Experimental and numerical response of arch bridge historic masonry under eccentric loading. *International Journal of Architectural Heritage*, 2010;4(2):115-137. DOI: 10.1080/15583050903093886. [S](#)

### **National Journals**

- 2016 de Felice G, De Santis S. Il rinforzo delle volte in laterizi con sistemi SRG. *Compositi magazine* 2016;40:50-55.
- 2015 Carozzi FG, de Felice G, De Santis S, Poggi C. Materiali compositi a matrice inorganica (FRCM) per il rinforzo di strutture in muratura. Round Robin Test per la caratterizzazione meccanica. *Compositi magazine* 2015;37:23-26.
- 2009 de Felice G, De Santis S, Martinelli A, Petracca A. Palazzo Ciolina a L'Aquila. Speciale Monumenti Dannati. Università sul campo: il come e il perché dei danni a 48 monumenti in Abruzzo. Il giornale dell'arte, Ottobre 2009.

### **Books / Research Monographs**

- De Santis S. 2015. Load carrying capacity and seismic behaviour of masonry arch bridges. From experimental testing to structural assessment. Scholars' Press: Saarbrücken, Germany. ISBN: 978-3-639-51179-6.

### **Contributions to Books**

- de Felice G, De Santis S, Martinelli A, Petracca A. 2012. Palazzo Ciolina a L'Aquila. In: *L'università e la ricerca per l'Abruzzo: il patrimonio culturale dopo il terremoto del 6 Aprile 2009*. Ed. Textus. ISBN: 978-8-887-13280-9.

### **National and International Conference Proceedings**

- 2021 De Santis S, AlShawa O, De Canio G, Forliti S, Liberatore D, Meriggi P, Roselli I, Sorrentino L, de Felice G. Design of shake table tests of multi-leaf masonry walls before and after retrofitting. 12th International Conference on Structural Analysis of Historical Constructions SAHC 2020. Barcelona, Spain, 29-30 September - 01 October 2021. *To appear*.
- AlShawa O, De Canio G, de Felice G, De Santis S, Forliti S, Liberatore D, Mirabile Gattia D, Perobelli S, Persia S, Roselli G, Sorrentino L. Investigation of rubble-masonry wall construction practice in Latium, Central Italy. 12th International Conference on Structural Analysis of Historical Constructions SAHC 2020. Barcelona, Spain, 29-30 September - 01 October 2021. *To appear*.
- Roscini F, De Santis S, Meriggi P, de Felice G. Overview of the mechanical properties of steel reinforced grout systems for structural retrofitting. 12th International Conference on Structural Analysis of Historical Constructions SAHC 2020. Barcelona, Spain, 29-30 September - 01 October 2021. *To appear*.
- 2020 De Santis S. Unconventional measurement techniques in experiments on masonry. 17th IB2MAC International Brick&Block Masonry Conference, Cracow, Poland, 5-8 July 2020. ISBN 978-0-367-56586-2.
- De Santis S, Meriggi P, de Felice G. Durability of Steel Reinforced Grout composites. 17th IB2MAC International Brick&Block Masonry Conference, Cracow, Poland, 5-8 July 2020. ISBN 978-0-367-56586-2.

- de Felice G, De Santis S, Meriggi P. An Overview of The Tensile and Bond Behavior of Fabric Reinforced Cementitious Matrix (FRCM) Composites. Proc. ACI Spring Convention in Chicago, IL, US, 29 March-2 April 2020.
- 2019 Meriggi P, de Felice G, De Santis S, Roscini F. Durability of Steel Reinforced Grout systems subjected to freezing and thawing conditioning. Fib Symposium on Concrete and Concrete Structures, Parma, Italy, 15 October 2019.
- Di Ludovico M, De Martino G, Santoro A, Prota A, Manfredi G, Calderini C, Carocci C, da Porto F, Dall'Asta A, De Santis S, Fiorentino G, Digrisolo A, Dolce M, Moroni C, Ferracuti B, Ferretti D, Graziotti F, Penna A, Mannella A, Marini A, Mazzotti C, Sorrentino L. Usability and damage assessment of public buildings and churches after the 2016 central italy earthquake: The reluis experience. Earthquake Geotechnical Engineering for Protection and Development of Environment and Constructions. Proc. 7th Int. Conference on Earthquake Geotechnical Engineering, Rome, Italy 17-20 June 2019. [📄](#)
- Thermou G, De Santis S, de Felice G, Alotaibi S, Roscini F, Hajirasouliha I, Guadagnini M. Shear behaviour of multi-ply steel reinforced grout composites for the strengthening of concrete structures. Proc. Int. SECED 2019 Conference. Greenwich, UK, 9-10 September 2019.
- De Santis S, de Felice G, Di Noia GL, Meriggi P, Volpe M. Shake table tests on a masonry structure retrofitted with composite reinforced mortar. Proc. Int. Conf. MuRiCo6 6th International Conference on mechanics of masonry structures strengthened with composite materials. Bologna, Italy, 26-28 June 2019. Key Engineering Materials 2019;817:342-349. DOI: 10.4028/www.scientific.net/KEM.817.342. [📄](#)
- de Felice G, De Canio G, De Santis S, Roselli R. Seismic retrofitting of masonry walls with textile reinforced mortar composites. Proc. RILEM Spring Convention and Sustainable materials, systems and structures Conference. Rovinj, Croatia, 18-22 March 2019.
- 2018 De Santis S, Roscini F, de Felice G. Strengthening of masonry vaults with Textile Reinforced Mortars. Proc. Int. Conf. SAHC'18, 11th International Conference on Structural Analysis of Historic Constructions. Cusco, Peru, 11-13 September 2018. RILEM Bookseries 2019;18:1539-1547. ISBN: 978-3-319-99440-6. DOI: 10.1007/978-3-319-99441-3\_165. [📄](#)
- Meriggi P, Pantò B, De Santis S, Mordanova A, de Felice G. Distinct element modelling of the out-of-plane seismic behaviour of masonry walls. Proc. Int. Conf. SAHC'18, 11th International Conference on Structural Analysis of Historic Constructions. Cusco, Peru, 11-13 September 2018. RILEM Bookseries 2019;18:1364-1371. ISBN: 978-3-319-99440-6. DOI: 10.1007/978-3-319-99441-3\_146. [📄](#)
- De Santis S, Bellini A, de Felice G, Mazzotti C, Meriggi P. Design of the out-of-plane strengthening of masonry walls with Textile Reinforced Mortar composites. Proc. Int. Conf. CICE 2018, 9th International Conference on Fibre-Reinforced Polymer (FRP) Composites in Civil Engineering. Paris, France, 17-19 July 2018. [📄](#)
- Tekieli M, De Santis S, de Felice G, Hojdys Ł, Krajewski P, Kwiecień A, Roscini F. Strain and crack detection in experimental tests on textile reinforced mortar composites. Proc. Int. Conf. CICE 2018, 9th International Conference on Fibre-Reinforced Polymer (FRP) Composites in Civil Engineering. Paris, France, 17-19 July 2018. [📄](#)
- Thermou GE, de Felice G, De Santis S, Alotaibi S, Roscini F, Hajirasouliha I, Guadagnini M. Mechanical characterization of multi-ply steel reinforced grout composites for the strengthening of concrete structures. Proc. Int. Conf. CICE 2018, 9th International Conference on Fibre-Reinforced Polymer (FRP) Composites in Civil Engineering. Paris, France, 17-19 July 2018. [📄](#)
- De Santis S, De Canio G, de Felice G, Roselli I. Seismic retrofitting of masonry with Fabric Reinforced Mortars. Proc. Int. Conf. Italian Concrete Days, Giornate aicap 2018, Congresso CTE. Milan/Lecco, Italy, 13-15 June 2018. Lecture Notes in Civil Engineering 2020;42:337-346. [📄](#)
- de Felice G, De Santis S, Realfonzo R, Napoli A, Ascione F, Stievanin E, Cescatti E, Valluzzi MR, Carloni C, Santandrea M, Camata G. State of the art of Steel Reinforced Grout applications to strengthen masonry structures. Proc. Int. Conf. DSCS 2018, 2nd International Workshop on Durability and Sustainability of Concrete Structures. Moscow, Russia, 6-7 June 2018. ACI SP 2018;326:102.1-102.12. [📄](#)
- Carloni C, Ascione F, Camata G, de Felice G, De Santis S, De Vita A, Lamberti M, Napoli A, Realfonzo R, Santandrea M, Stievanin E, Cescatti E, Valluzzi MR. An Overview of the Design Approach to Strengthen Existing Reinforced Concrete Structures with SRG. Proc. Int. Conf. DSCS 2018, 2nd International Workshop on Durability and Sustainability of Concrete Structures. Moscow, Russia, 6-7 June 2018. ACI SP 2018;326:101.1-101.10. [📄](#)
- De Santis S, De Canio G, de Felice G, Fantauzzi D, Focaccetti E, Roselli I. Seismic out-of-plane vertical bending behaviour of masonry walls reinforced with textile reinforced mortars. Proc. Int. Conf. IMC 2018, 10th International Masonry Conference. Milan, Italy, 9-11 July 2018. ISSN: 2523-532X. [📄](#)

- 2017 De Santis S, de Felice G. Out-of-Plane Reinforcement of Masonry Walls with Steel Reinforced Grout. Proc. ACI Spring Convention in Detroit, MI, US, 26-30 March 2017. ACI SP 2018;324:9.1-9.14. ISBN: 978-1-641-95005-3. [S](#)
- Roscini F, De Santis S, de Felice G. Evaluation of the bond behaviour of Steel Reinforced grout applied to curved masonry substrate via bending test. Proc. Int. Conf. PROHITECH'17 3rd International Conference on Protection of Historical Constructions. Lisbon, Portugal, 12-15 July 2017. ISBN: 978-9-898-48158-0.
- Malena M, De Santis S, Pantò B., de Felice G. A closed-form analytical solution to the debonding of SRG on curved masonry substrate. Proc. Int. Conf. MuRiCo5 5th International Conference on mechanics of masonry structures strengthened with composite materials. Bologna, Italy, 28-30 June 2017. Key Engineering Materials 2017;747:313-318. DOI: 10.4028/www.scientific.net/KEM.747.313. [S](#)
- De Santis S, Roscini F, de Felice G. Retrofitting masonry vaults with Basalt Textile Reinforced Mortar. Proc. Int. Conf. MuRiCo5 5th International Conference on mechanics of masonry structures strengthened with composite materials. Bologna, Italy, 28-30 June 2017. Key Engineering Materials 2017;747:250-257. DOI: 10.4028/www.scientific.net/KEM.747.250. [S](#)
- Zajac B, De Santis S, Sena-Cruz J, Gams M, Kwiecień A. Szybkie wzmocnienia konstrukcji materiałami kompozytowymi mocowanymi na złączu podatnym (Quick strengthening of structures using composites bonded on flexible adhesives). Proc. 28th Conference on Structural Failures (Awarie budowlne XXVIII) Międzyzdroje, Poland, 22-26 May 2017. ISBN: 978-83-7663-234-6.
- 2016 Di Ludovico M, Digrisolo A, Graziotti F, Moroni C, Baltzopoulos G, Biondi S, Borri A, Caprili S, Carocci C, Dall'Asta A, Dezi L, De Santis S, Di Fabio F, Di Sarno L, Ferracuti B, Ferretti D, Fiorentino G, Ianniruberto U, Mannella A, Mazzotti C, Podestà S, Riva P, Sandoli A, Silvestri S, Sorrentino L, Vignoli A, Magenes G, Masi A, Prota A, Dolce M, Manfredi G. The contribution of ReLUIs to the usability assessment of school buildings following the 2016 Central Italy earthquake. XXXV Convegno GNGTS del Gruppo Nazionale di Geofisica della Terra Solida. Lecce, Italy, 22-24 November 2016.
- de Felice G, De Santis S. Seismic retrofitting of cultural heritage with textile reinforced mortar. Proc. Int. Scientific Conf. BASA 2016. Sofia, Bulgaria, 23-25 November 2016.
- de Felice G, De Santis S. SRG reinforcements for the rehabilitation of masonry vaults. Proc. Int. Conf. Italian Concrete Days, Giornate aicap 2016, Congresso CTE. Rome, Italy, 27-28 October 2016.
- Roscini F, De Santis S, de Felice G. Experimental investigation on the mechanical behaviour of mortar-based strengthening systems. Proc. Int. Conf. SAHC'16, 10th International Conference on Structural Analysis of Historic Constructions. Leuven, Belgium, 13-16 September 2016. ISBN: 978-1-138-02951-4. [S](#)
- Mordanova A, De Santis S, de Felice G. State-of-the-art review of out-of-plane strengthening of masonry walls with mortar-based composites. Proc. Int. Conf. SAHC'16, 10th International Conference on Structural Analysis of Historic Constructions. Leuven, Belgium, 13-16 September 2016. ISBN: 978-1-138-02951-4. [S](#)
- De Santis S, de Felice G. Bond behaviour of Steel Reinforced Grout strengthening systems applied to the extrados of masonry vaults. Proc. Int. Conf. SAHC'16, 10th International Conference on Structural Analysis of Historic Constructions. Leuven, Belgium, 13-16 September 2016. ISBN: 978-1-138-02951-4. [S](#)
- De Santis S, Roscini F, de Felice G. Experimental characterization of mortar-based reinforcements with carbon fabrics. Proc. 16IB<sup>2</sup>MAC, 16th International Brick&Block Masonry Conference. Padova, Italy, 26-30 June 2016. ISBN: 978-1-138-02999-6. [S](#)
- 2015 De Santis S, de Felice G, Sguerri L. Prove di distacco in situ su rinforzi in SRG applicati alla superficie estradossale di volte in muratura. Proc. XVI Convegno di Ingegneria Sismica ANIDIS 2015. L'Aquila, Italy, 13-17 September 2015.
- De Santis S, de Felice G. Traditional and innovative techniques for the seismic retrofitting of masonry buildings. Proc. Int. SECED 2015 Conference. Cambridge, UK, 9-10 July 2015.
- de Felice G, De Santis S, Napoli A, Realfonzo R. Overview of the experimental works on steel reinforced polymer systems. ACE 2015, 2nd International Symposium on Advances in Civil Engineering. Vietri sul Mare, Italy, 12-13 June 2015. Applied Mechanics and Materials, 2016;847:369-380. DOI: 10.4028/www.scientific.net/AMM.847.369.
- Carozzi FG, de Felice G, De Santis S, Poggi C. Test per la Round Robin caratterizzazione meccanica di materiali compositi a matrice inorganica (FRCM) per il rinforzo di strutture in muratura. IV Convegno Assocompositi. Milano, Italy, 6-7 May 2015.
- 2014 De Santis S, de Felice G. Tensile behaviour and durability of mortar-based strengthening systems with glass-aramid textiles. Proc. Int. Conf. MuRiCo4, 4th International Conference on mechanics of masonry structures strengthened with composite materials. Ravenna, Italy, 9-11 September 2014. ISBN: 978-3-03835-203-7. Key Engineering Materials, 2015;624:346-353. DOI: 10.4028/www.scientific.net/KEM.624.346. [S](#)

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*Stefano De Santis*