Francesca Sciarretta Arch. Ph.D
Grant holder
IUAV University of Venice – Department of Architecture and Arts
Dorsoduro 2206 - 30123 Venice, Italy
scifra@iuav.it

Born in 1978, Dr Francesca Sciarretta began her academic career at the IUAV University of Venice in 2006. She got her Ph. D. degree in Structural Engineering *cum laude* in 2010 at the Doctoral School of the University of Trento. Her Ph. D. thesis, titled 'Theoretical-experimental analysis of the mechanical behavior of brick-mortar masonry subjected to high temperatures', was the first theoretical-experimental research ever done in Italy about the residual mechanical behavior of brickwork and its components after exposure to high temperatures. From 2012 to 2017, she was appointed Assistant Professor at the IUAV University of Venice, being called to develop a research programme titled 'Mechanical behavior of historic masonry structures under severe actions'.

Her main research interests are:

- testing on masonry structures and construction materials: mechanical characterization of materials, mechanical effects of high temperature exposure at the material's and structural scale, testing on materials and structures with destructive, non-destructive and micro-destructive techniques for diagnosis of structures' present state and physical modeling of structures (including neutron-based techniques), dynamic testing
- innovative applications for strengthening and repair of masonry structures: design and study of pultruded FRP members and frames as seismic strengthening provisions for masonry structures
- theoretical and numeric analysis: conventional analytical approaches to structural strength, including limit analysis of arches, use of FEM structural analysis with STRAND7 and DIANA software for thermal flow-stress problems in structural members, natural frequency analysis, dynamic and seismic spectrum analysis for earthquake design, linear and non-linear static and dynamic behavior of historic masonry structures via micro- and macro-modeling approaches
- monitoring and control of monumental buildings: static and dynamic monitoring procedures, structural dynamic characterization of historic structures and integrated monitoring of complex structures.

Selected publications:

1. Sciarretta F., Antonelli F., Peron F., Caniglia S. (2018). Final outcomes on the multi-disciplinary long-term monitoring and preservation state investigation on the medieval external Façades of Palazzo Ducale in Venice, Italy. *Journal of Civil Structural Health Monitoring*, vol. 8, p. 111-133, ISSN: 2190-5452, doi: 10.1007/s13349-017-0263-2
2. Casalegno C., Russo S., Sciarretta F. (2018). Numerical analysis of a masonry panel reinforced with pultruded FRP frames: preliminary evaluation and potentiality. *Mechanics of Composite Materials*, vol. 54, n. 2
3. Kis, Z., Sciarretta F., Szentmiklósi L. (2017). Water uptake experiments of historic construction materials from Venice by neutron imaging and PGAI methods. *Materials and Structures*, vol. 50, ISSN: 1359-5997, doi: 10.1617/s11527-017-1004-z
4. Cecchi A., Russo S., Sciarretta F. (2017). Preliminary investigation on FRP profiles for the structural retrofit of masonry structures. In: Mechanics of Masonry Structures Strengthened with Composite Materials II. *Key Engineering Materials*, vol. 747, p. 77-84, Trans Tech, ISSN: 1013-9826, Bologna, 28-30 giugno 2017, doi: 10.4028/www.scientific.net/KEM.747.77
5. Sciarretta F. (2017). Feasibility and usefulness of simplified analytical approach to fire design of masonry structures. In: IFIRESS - 2nd International Fire safety Symposium 2017, p. 471-478, Napoli, 7-9 giugno 2017, Napoli: Doppiavoce, ISBN: 978-88-89972-67-0
6. Russo S., Sciarretta F. (2013). Masonry exposed to high temperatures: Mechanical behaviour and properties — An overview. *Fire Safety Journal*, vol. 55, p. 69-86, ISSN: 1873-7226, doi: 10.1016/j.firesaf.2012.10.001
7. Russo S., Sciarretta F. (2012). Experimental and Theoretical Investigation on Masonry after High Temperature Exposure. *Experimental Mechanics*, vol. 52, p. 341-359, ISSN: 0014-4851, doi: 10.1007/s11340-011-9493-0

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