


## Francesca MATRONE

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12/01/1990 TORINO (TO) ITALY

Nationality: Italian

 Via Mocchie 8 10139 - TORINO (TO) ITALY

 + 39 3290237017

 francesca.matrone@polito.it

### EDUCATION

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- 10/06/2017 - up to present \* **Ph.D. in Urban And Regional Development (XXXIII cycle)**  
Politecnico di Torino
- 01/23/2015 - 04/28/2017 \* **Postgraduate Diploma in Architectural And Landascape Heritage**  
Politecnico di Torino  
Thesis: *3D metric survey and HBIM modeling for the architectural heritage planned maintenance. The case study of Sacro Monte di Varallo.*  
Final grade 110/110 cum laude
- 01/10/2013 - 12/16/2014 \* **Master's Degree in Architecture Heritage Preservation And Enhancement** Politecnico di Torino  
Thesis: *Sustainability in architectural renovation: comparing two realities in Italy and Sweden*  
Final grade 110/110 cum laude
- 09/17/2009 - 12/20/2012 \* **Bachelor's Degree in History And Preservation Of Architectural And Environmental Heritage**  
Politecnico di Torino  
Thesis: *The materials of not-invasive restoration: the fiber-reinforced composites*  
Final grade 105/110

### INTERNATIONAL EXPERIENCE

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- 09/09/2019 – 20/12/2019 **PHD VISITING SEMESTER**  
National Institute of Applied Sciences (INSA) – Strasbourg, France
- 08/12/2014 - 11/06/2014 \* **THESIS ABROAD PROGRAM**  
Chalmers University of Technology – Göteborg, Sweden
- 09/01/2011 - 12/20/2011 \* **LLP/ERASMUS**  
Turku University of Applied Sciences – Turku, Finland

### PROFESSIONAL EXPERIENCE

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- 04/04/2016 - 12/31/2016 **Drafting the "Monitoring plan of the UNESCO site Vineyard landscape of Piedmont: Langhe-Roero and Monferrato"**  
SiTI - Higher Institute for Territorial System and Innovation - Turin - ITALY  
Elaboration of GIS thematic maps, creation of a database and implementation of a set of indicators for its monitoring.
- 01/11/2016 - 07/11/2016 **Restoration and renovation projects**  
MGA4 Architectural Studio - Turin - ITALY  
Metric surveys, decay mapping, estimative metric computation

- 05/04/2015 - 12/30/2015 [Restoration and renovation projects](#)  
 Spazio Ku'bo Architectural and Engineering Studio - Ceva (CN) - ITALY  
 Metric surveys, decay mapping, thermography diagnostic
- 02/03/2014 - 06/06/2014 [Diagnostics for decays of historical buildings](#)  
 Restoration Laboratory - LABDIA - Turin Politecnico - Turin - ITALY  
 Infrared thermography for decays diagnosis, resistography for wooden structures, video endoscopy

## LANGUAGE SKILLS

Mother tongue Italian

Other languages

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English *	B2	B2	B2	B2	B2

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user

[Common European Framework of Reference for Languages](#)

Language certificates

2009 Cambridge FIRST Certificate In English

## COMPUTER SKILLS

PROGRAMMING  
LANGUAGE/CODE  
SOFTWARE

Dreamweaver (HTML), Python (basic), MATLAB (basic)

Agisoft Metashape, Pix4D, ContextCapture, MicMac (basic), Cloud Compare, 3D Reshaper, FARO Scene, ArcGIS, QGIS, Dialux, ThermaCAM Image Builder, Autodesk ReCap 360

CAD

Autocad, Revit

GRAPHICS

Photoshop, Illustrator, InDesign, Swift Publisher, Rhinoceros (basic)

## AWARDS

- 2019 Award of the *Italian society of photogrammetry and topography* (SIFET) for the poster "SLAM and photogrammetry: data integration in the multi-sensor survey".
- 2018 *Young authors award* of the *Italian society of photogrammetry and topography* (SIFET) for the paper "HBIM from point clouds: metric accuracy and results assessment".

## PUBLICATIONS

- 2019 E. Malinverni, R. Pierdicca, M. Paolanti, E. Frontoni, M. Mameli, M. Martini, F. Matrone, A. Lingua (2019). "Deep learning for semantic segmentation of 3D point clouds using real and synthetic database". In *The International Archives of the Photogrammetry, remote Sensing and Spatial Information Science*
- 2019 D. De Luca, M. Del Giudice, N. Grasso, F. Matrone, M. Piras, A. Osello (2019). "Handheld volumetric scanner for 3D printed integrations of historical elements: comparison and results". In *The International Archives of the Photogrammetry, remote Sensing and Spatial Information Science*
- 2019 G. Bronzino, N. Grasso, F. Matrone, M. Piras, A. Osello (2019). "Laser-visual-inertial odometry based solution for 3D heritage modeling: the Sanctuary of the Blessed Virgin of Trompone". In *The International Archives of the Photogrammetry, remote Sensing and Spatial Information Science*
- 2019 (in press) F. Matrone, R. Stano (2019). "Data use from HBIM models. The case studies of the Basilica of San Nicola in Tolentino and of the Sacro Monte di Varallo". *Proceedings of Geomatics and BIM*, Mantua, 10<sup>th</sup> May 2018.
- 2019 F. Matrone, E. Colucci, V. De Ruvo, A. Lingua, A. Spanò (2019). "HBIM in a semantic 3D GIS database". In *The International Archives of the Photogrammetry, remote Sensing and Spatial Information Science*, XLII-2/W11, pp. 857-865.

- 2018 F. Chiabrandò, E. Colucci, A. Lingua, F. Matrone, F. Noardo, A. Spanò (2018). "A European Interoperable Database (EID) to increase resilience of cultural heritage". In The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, Volume XLII-3/W4, 2018, pp. 151-158
- 2018 F. Matrone (2018). "HBIM from point clouds: metric accuracy and results assessment". In Bollettino SIFET, Science section, n. 2, pp. 1-9
- 2018 E. Colucci, F. Noardo, F. Matrone, A. Spanò, A. Lingua (2018). "High-level-of-detail semantic 3D GIS for risk and damage representation of architectural heritage". In The International Archives of the Photogrammetry, remote Sensing and Spatial Information Science, Vol. XLII-4, pp. 107-114
- 2017 A. Lingua, F. Noardo, A. Spanò, S. Scianna, F. Matrone (2017). "3D Model generation using oblique images acquired by UAV". In The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, Volume XLII-4/W2, 2017, pp. 107-115
- 2017 S. Fraire, F. Matrone (2017). "Monitoring the UNESCO site "Vineyard Landscape of Piedmont: Langhe-Roero and Monferrato". The experimentation of a system of indicators for the assessment of risk factors and vulnerabilities of a cultural landscape.". In UNESCO Chair Notebook, pp. 40-47
- 2017 M. Del Giudice, A. Lingua, F. Matrone, F. Noardo, S. Sanna, M. Zerbinatti (2017). "3D survey and HBIM modeling for the planned maintenance of the architectural heritage". In XXI National Conference ASITA 2017, pp. 357-364
- 2017 M. Banino, A. Giani, F. Matrone (2017). "The agrarian landscape. Signs of "time in space" to be preserved for the future memory". In Atti della Summer School "Emilio Sereni" - Living Earth, pp. 30-37
- 2015 M. Massavelli, F. Matrone (2015). "The historical and territorial identity of the Val Merula landscape in Liguria, between typical productions and valorization routes of oil and vineyard products. A comparative study between the Napoleonic Cadastre and the present state of the territory.". In VII Congresso AISU - Food and the city

\* Fields marked with an \* are certified by Politecnico di Torino.

