

CV of the Principal Investigator (PI)

PERSONAL INFORMATION

Lo Turco, Massimiliano

ORCID: orcid.org/0000-0003-1440-3911 Date of birth: 01/03/1977

Nationality: Italy

URL for web site: https://didattica.polito.it/pls/portal30/sviluppo.scheda_pers_swas.show?m=012370 **EDUCATION**

2001 **Master Degree** in Building Engineering Politecnico di Torino, Italy.

2003 **Master Degree** in Architecture Politecnico di Torino, Italy.

2007 **PhD** in *Drawing and Survey for the Conservation of Building and Territorial Heritage*. Tutor: prof. S. Coppo, discussed on 24-04-2007, with **excellent** rating.

Department of Structural, Geotechnical and Building Engineering / Politecnico di Torino, Italy.

CURRENT POSITION

2022 –now **Full Professor**

Department of Architecture and Design/ Politecnico di Torino, Italy.

PREVIOUS POSITIONS

2012- 2014 **Research Fellow** (from 04/ 2012 till 03/2014), taking part to "INNOVANCE project -Industry 2015", for identifying standardization procedures of the building process through BIM methodologies and conducting energy and functional simulations applied to building components (Dept. of Structural, Geotechnical and Building Engineering / Politecnico di Torino, Italy).

2007-2009 **Research Fellow** (from 09/ 2007 till 09/2009), taking part to " *architecture design and interoperability*" to deepen issues related to the complexity of the construction process and its phases, with particular attention to those of the survey, design, construction and the environment in BIM management and maintenance (Dept.of Structural, Geotechnical and Building Engineering / Politecnico di Torino, Italy).

FELLOWSHIPS AND AWARDS

2017-2019 Selected project for the pilot initiative "Create a network around your research idea" is funded within the framework of the collaboration between Politecnico di Torino and Compagnia di San Paolo. **B.A.C.K. TO T.H.E. F.U.T.U.R.E. - BIM Acquisition as Cultural Key TO Transfer Heritage of ancient Egypt For many Uses To many Users REplayed** .The research project aimed at defining a new methodology in which the Information Modeling tools can be used for unconventional purposes, to realize 3D databases of small objects, especially those belonging to large museum collections, useful both for Scientific Research and to set up Virtual Platforms for Dissemination.Partners: Cartographic and Land Engineering Department of the University of Salamanca in Avila, Spain; Fondazione Museo delle Antichità Egizie di Torino, Italy.

2010 – 2011 Scholarship supported by Cassa di Risparmio di Torino: Scientific coordination of the research project entitled "Green Building Information Modeling: three-dimensional parametric models for sustainable design in the building sector". The results of the research were published in the monograph: Garzino G. (editor), *Drawing (and) information. Polytechnic drawing* , Maggioli, 2011. Editorial coordination and co-authoring of 7 book chapters.

TEACHING ACTIVITIES

2007 – 2015 , non tenured lecturer (from 2015 Associate Professor) in *Representation techniques* on the Bachelor degree course in Graphic and Virtual Design and on the Bachelor Degree in Sciences of Architecture and in *Automatic Drawing, Digital Parametric Modelling, Building Information Modeling* on the Master Degree course in Architecture-Construction-City, in *GIS and 3D Modeling for Cultural Heritage*, on the Master Degree of Architecture for Heritage preservation and enhancement Politecnico di Torino, Italy.

ORGANISATION OF SCIENTIFIC MEETINGS

2015 Participation in the organization of the conference Drawing & City – Culture, Art, Science and Information. XII Congress of UID – Unione Italiana Disegno and XXXVII International Congress of Representation teachers – Conference, 250 participants, Politecnico di Torino

2016 Organization of the XII International Conference of Colour and Colourimetry— 150 participants, Politecnico di Torino.

2017 Organization of the 1st International Conference of Image&Imagination— 200 participants, Free University of Bozen, Bressanone (November, 2017).

2019 Organization of the 2nd Workshop Digital & Documentation vol. 2 - 100 participants. Politecnico di Torino, (June, 2019).

2019 Organization of the 2nd International Conference of Image&Imagination— 150 participants, Università degli Studi di Sassari, Alghero (July, 2019).

INSTITUTIONAL RESPONSIBILITIES

2018 -now **Program Director of the Bachelor's Degree in Architettura / Architecture**
Dept. of Architecture and Design/ Politecnico di Torino, Italy.

COMMISSIONS OF TRUST

2016 –2018: Scientific Advisory Board for International Conference of Colour and Colourimetry 2016- on: Scientific Advisory Board for International Workshop 3dModeling&BIM, held at Roma la Sapienza 2016 Scientific Advisory Board for the seminary “BRAINSTORMING THE BIM MODEL” held at Politecnico di Milano

2016- on: Review Board forUID International Conference

2012 on: Reviewer for several Scientific Journal such as: Sustainable Cities and Society, Journal of Civil Engineering and Architecture, Firenze Architettura.

2018- on Member of the Editorial board of the scientific journals:

- Disegnarecon (ISSN 1828-5961); D Building Information Modeling, Data & Semantics (ISSN 2610-8775); "Disegno (2533-2899)

2019 - on Associate Editor of the International and Interdisciplinary IMGJournal

MEMBERSHIPS OF SCIENTIFIC SOCIETIES

From 2012 -UID Member (Unione Italiana Disegno)

From 2015 Membership of the Italian Association of Colour – Gruppo del Colore

From 2016 -Cipa Member (International Committee of Architectural Photogrammetry) From 2017 – INTBAU Member (International Network for Traditional Building, Architecture & Urbanism)

MAJOR COLLABORATIONS

International Cooperation: The Augmented Don Quixote project brings together scholars of Hispanics and Digital Representation Techniques with the TPE Foundation (Teatro Piemonte Europa) and the Saveria Project association which rewrote the Cervantes novel for a innovative “augmented” performance, (28th-30th March 2019, at the "Arturo Graf" Historical Library of the University of Turin as part of the Creative Europe (Culture) programme: Q. THEATRE-Theatrical recreations of Don Quixote in Europe.

I-Change Polito RESEARCH GROUP : Topics: Digital Cultural Heritage, Modelling, Geodigital Systems, study of Turin historical transformation. Joint research project: Politecnico di Torino - UCLA, University of California, Los Angeles, Center for Digital Humanities, Cotsen Institute of Archaeology. (PI: Rosa Tamborrino); Annual summer schools on Cities, Cultural Heritage and Digital Humanities. <http://www.i-change.polito.it/index.html>

Drawing to the future laboratory (Scientific Coordinator: Anna Osello) topics: BIM, District Information Modelling, Facility Management, Geographic Information System, Virtual and Augmented Reality, 3D Printing. Research Projects: SEEMpubS, DIMMER, EEB, BHIMM. Principal partnership agreements: Città di Torino, Regione Piemonte, Centro Ricerche Fiat, Reale Group, ANAS, IREN. <http://www.drawingtothefuture.polito.it/>

TRACK RECORD Best scientific products

Editor

Lo Turco, M., Giovannini, E. C. Mafrici, N. (2020). *Digital & Documentation vol.2. Digital strategies for Cultural Heritage*. Pavia: Pavia University Press.

Book Chapters

Lo Turco, M. (2019). The digitization of museum collections for the research, management and enhancement of Cultural Heritage. In: Parrinello, S. (ed.). *DIGITAL & DOCUMENTATION. Databases and Models for the enhancement of Heritage* (pp. 92-103). Pavia University Press, Pavia. Lo Turco, M. (2019). On Phygital reproductions: new experiential approaches for Cultural Heritage. In: Luigini, A., Panciroli, C. (eds.). *MANIFESTO Issue 01* (pp. 158-173). Publica Sharing Knowledge. Lo Turco, M. (2018). Teatri urbani e affreschi di luce. Raccontare il territorio con le tecnologie digitali. In: Luigini, A., Panciroli, C. (eds.). *Ambienti digitali per l'educazione all'arte e al patrimonio* (pp. 151-171). Franco Angeli, Milano.

Garzino, G., Spallone, R., Lo Turco, M. (2011). Digital strategies for knowledge based models - Strategie digitali per modelli conoscitivi. In: Garzino, G. (ed.). *Drawing and information. Polytechnic drawing - Disegno (e) in_ formazione: disegno politecnico* (pp. 70-111). Maggioli, Santarcangelo di Romagna.

Peer-reviewed journals

Lo Turco, M., Piumatti P., Calvano, M., Giovannini, E.C., Mafrici, N., Tomalini, A., Fanini, B. (2020). Interactive Digital Environments for Cultural Heritage and Museums. *DISEGNARECON vol.12, n.23*, 1-11. Lo Turco, M., Spallone, R. (2019). Integrated digital platforms for Cultural Heritage. Some experiences of the School of Architecture at the Politecnico di Torino, *PAESAGGIO URBANO*, 53-65.

Lo Turco, M., Tomalini, A. (2019). PARAMETRIC HERITAGE. THE DIGITAL RECONSTRUCTION OF P.L. NERVI'S PALAZZO DEL LAVORO IN THE 3D MODELLING AGE. *INTERNATIONAL ARCHIVES OF THE PHOTOGRAMMETRY, REMOTE SENSING AND SPATIAL INFORMATION SCIENCES, XLII-2/W15*, 1149-1155.

Santagati, C., Lo Turco, M. (2016). From structure from motion to historical building information modeling: populating a semantic-aware library of architectural elements. *Journal of Electronic Imaging* 26(1), 1-12. Lo Turco, M., Sanna, M. (2010). La modellazione digitale ricostruttiva: il caso della chiesa della Misericordia a Torino. *DISEGNARE IDEE IMMAGINI*, 42-51.

Lo Turco, M., Calvano, M., Giovannini, E. C. (2019). Data modeling for museum collections. *INTERNATIONAL ARCHIVES OF THE PHOTOGRAMMETRY, REMOTE SENSING AND SPATIAL INFORMATION SCIENCES, XLII-2/W9*, 433-440.

Peer-reviewed international conferences proceedings

Scamuzzi, I., Moretti, S., Spallone, R., Lo Turco, M., Palma, V. (2019). Augmented Don Quixote: theatrical performances and new digital media. In: Belardi, P. (ed.), *REFLECTIONS. The art of drawing/the drawing of art* (pp. 1367-1374). Gangemi, Roma. (proceeding of the 41° Convegno Internazionale dei Docenti delle Discipline della Rappresentazione, Perugia, 19-21 September 2019).

Lo Turco, M., Calvano, M., (2019) Digital Museums, Digitized Museums. The case of the Egyptian Museum in Turin. In: Luigini, A. (ed.) *Proceedings of the 1st International and Interdisciplinary Conference on Digital Environments for Education, Arts and Heritage. EARTH 2018. Advances in Intelligent Systems and Computing* (pp. 387-398). Springer, Cham. (proceeding of: Convegno International and Interdisciplinary Conference on Digital Environments for Education, Arts and Heritage, Bressanone, 5-6 July 2018).

Palma, V., Lo Turco, M., Spallone, R., Vitali, M. (2018). Augmented Iconography. AR applications to the fortified Turin in the Theatrum Sabaudiae. In: Spallone R., Marotta A. (eds.) *DEFENSIVE ARCHITECTURE OF THE MEDITERRANEAN Vol. IX* (pp. 1053-1060). Politecnico di Torino, Torino. (Proceedings of: International Conference on Modern Age Fortification, Politecnico di Torino, 18-20 October 2018).

Invited presentations to peer-reviewed, internationally established conferences and/or international advanced schools only referred to the LAST TWO YEARS

2019 invited to participate in **ICAS EMM2**, Nicosia (CY), November, 12th-14th with an oral presentation titled "Towards a Phygital Heritage approach for Museum Collection".

2019 invited as **keynote speaker** in **DIGITAL HERITAGE**, Università degli Studi di Ferrara, March 28th, with an oral presentation titled "Piattaforme digitali integrate per i Beni culturali. Alcune esperienze della Scuola di Architettura del Politecnico di Torino".

2019 invited to participate in **41° Convegno Internazionale dei Docenti delle Discipline della Rappresentazione UID**, Perugia, September, 19th-21th with an oral presentation titled "Augmented Don Quixote: performance teatrali e nuovi media digitali I Augmented Don Quixote: theatrical performances and new digital media".

2019 Chair of the event **Digital & Documentation Vol.2, Digital strategies for Cultural Heritage** Politecnico di Torino, June, 14th.

2019 invited to participate in **IMG 2019. 2nd INTERNATIONAL AND INTERDISCIPLINARY CONFERENCE ON IMAGES AND IMAGINATION** , July, 4th-5th as chair of two sessions, together with an oral presentation titled “Display the invisible. Automated algorithms to visualize complex phenomena”. **2018** invited to participate in **2018 3rd Digital Heritage International Congress (DigitalHERITAGE)** , San Francisco (USA), October, 26th-30th with an oral presentation titled “The digitisation of museum collections for research, management and enhancement of tangible and intangible heritage”.

2018 Participation in **International Conference on Modern Age Fortifications of the Mediterranean Coast, FORTMED 2018, Politecnico di Torino, Torino (Italy) October, 18th-20th** with an oral presentation titled “Augmented Iconography. AR applications to the fortified Turin in the Theatrum Sabaudiae” (Presented by the co-author V. Palma).

2018 Invitation as **keynote speaker** to the Seminary titled “Digital and Documentation. Databases and Models for the enhancement of Heritage” with an oral presentation titled “ **The digitization of museum collections for the research, management and enhancement of cultural heritage**” at Università degli Studi di Pavia, June, 2018.

Appendix: All on-going and past grants and funding of the PI (Funding ID)

Ongoing Grants

<i>Project Title</i>	<i>Funding source</i>	<i>Amount (Euros)</i>	<i>Period</i>	<i>Role of the PI</i>	<i>Relation to current proposal</i>
Digital historical scenic design	Associazione Teatro Popolare di Sordevolo	6700 (1st step)	12/2019 ongoing	Scientific Coordinator	Information Modeling, Intangible Heritage, Virtual Reality

Past Grants

Project Title	Funding source	Amount (Euros)	Period	Role of the PI	Relation to current proposal
B.A.C.K. TO T.H.E. F.U.T.U.R.E.	Compagnia di San Paolo - Politecnico di Torino	129.500	15/9/2017 - 14/9/2019	Principal Investigator	Information Modeling tools, 3D databases of small objects, Virtual Platforms, Virtual Exhibitions
Citylab – Engaging Students with Sustainable Cities in Latin-America	European Project Erasmus +	700.000	15/10/2015 - 14/10/2018	Member of the PoliTo Expert Team	Expertise in Digital & Information technology
DIMMER	EU	700.000 (PoliTO) 3.720.000 (Total)	01/10/2013 - 30/09/2016	Collaborator (01/2016-09/2016)	Information Modeling expertise and tests about AR/VR application
Cluster EEB	MIUR	440.000 (PoliTO) 1.400.000 (Total)	01/01/2014 - 31/12/2016	Collaborator (01/2016-12/2016)	Information Modeling expertise and tests about AR/VR application

INNOVance	Ministero dello Sviluppo Economico	440.000 (PoliTO) 7.000.000 (Total)	2012-2015	Technical coordination of several Work Packages	Information Modeling expertise regarding to complex data management
Green BIM: 3D parametric models for sustainable design in the building sector	FondazioneCassa di Risparmio di Torino	75000 €	2010-2011	Scientific Coordinator	BIM expertise: interoperability between different platform, data sharing, database

Torino, 26/11/2020

Signature

