

PERSONAL INFORMATION

Fulvio Re Cecconi



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Se



EDUCATION AND TRAINING

- 19/051998 PhD building engineer
Politecnico di Milano – Department of Ingegneria dei Sistemi Edilizi e Territoriali
Title of the thesis: "Metodologie e strumentazioni per previsione della durabilità di componenti edilizi per edifici scolastici ai fini della loro programmazione manutentiva" (Methods and tools for service life prediction of school building components aimed to maintenance planning)
- 23/02/1994 MSc civil engineer
Politecnico di Milano
Title of the thesis: "Proposta di un metodo di ottimizzazione della scelta progettuale delle chiusure verticali opache per un edificio destinato ad uffici e laboratori" (Tool to optimize design choices for office and lab façades)

WORK EXPERIENCE

Fulvio Re Cecconi is an expert in building technology and construction management. He has been active as project and construction manager, planning director and construction safety manager. After 15 years of professional activity he moved to University, where he has been lecturer on building technology, maintenance management and project management. Currently, he is active on the subject of Asset Management and Whole Life Performance of Building. In this area he has worked extensively on school buildings with analyses ranging from the stock scale to the individual classroom scale. Since 2010 he has been the scientific secretary of CIB W080 working commission "Prediction of Service Life of Building Materials and Components".

- 2014 - now Associate professor for the *School of Architecture Urban Planning Construction Engineering* at the Politecnico di Milano, enrolled in the *Dept. of Architecture, Built Environment and Construction Engineering*
- 1998 - 2014 Researcher for the 6th School of Engineering of the Politecnico di Milano, enrolled in the *Dept. of Architecture, Built Environment and Construction Engineering*
- 2010 - now Scientific secretary of the CIB working commission W080 "Prediction of Service Life of Building Materials and Components"
- 2009 – 2015 Editor of "Ingegneri" a quarterly specialized magazine published by Maggioli Editore
- 2004 - 2011 Co-Editor of "Rivista del Consulente tecnico" a quarterly specialized magazine published by Maggioli Editore
- 2008 Research grant at Politecnico di Milano: experimental assessment of building components performances
- 1998 - 2002 Research grant at Politecnico di Milano: durability, maintainability and constructability of building components
- 1994- 2008 Consultant on several public and private construction projects

RESEARCHES

- 2019 - 2022** **BE S2ECURe - (make) Built Environment Safer in Slow and Emergency Conditions through behavioral assessed/designed Resilient solutions**
- BE S2ECURe is co-funded by the Italian Ministry of Education, University and Research (MIUR) as a research projects of national interest (PRIN). The project aims at overcoming the actual approach to the risk analysis based on separated and stand-alone analysis of the different natural or human-induced events. The project proposes a holistic multi-hazard risk reduction methodology merging in one vision the slow and immediate emergency events.
- 2019** **Predisposizione di un piano di manutenzione tipo per immobili e unità immobiliari a destinazione residenziale**
- The research, funded by a private company, continues and concludes the work done the year before on the building logbook for Assimpredil-ANCE. The aim is to develop a standardized maintenance plan for residential buildings.
- 2018** **Predisposizione della struttura di un Libretto digitale del Fabbricato**
- The research, funded by a private company, aims at developing a digital logbook of a building and at using this logbook to collect and sort information relating to the Assimpredil-ANCE headquarters.
- 2017-2019** **ELISIR - Energy, Life Styled and Seismic Innovation for Regenerated Buildings**
- Business Models and Punctual Innovations for Urban Regeneration as part of the Digitalisation of the Built Environment, R&D+S&I Smart Living, R.L. 26/2015 Widespread creative and technological manufacture 4.0 (Local PI, Funding source: Lombardy Region). WP: design and experimental validation of an "intelligent fenestration system". The objective of the activity is to develop an innovative fenestration system capable of: a) detecting the surrounding environmental conditions and the habits of the users; b) dynamically operating in response to energy and light variations; c) interfacing with the heating systems' control logic (the window becomes a thermostat); d) providing security and health to the environment
- 2012 - 2015** **BHIMM - Built Heritage Information Modelling/Management**
- BHIMM is co-funded by the Italian Ministry of Education, University and Research (MIUR) as a research projects of national interest (PRIN). The main aim of the research project is to introduce a new and innovative methodology, based on the so-called Building Information Modeling (BIM), capable of improving the current sustainable preservation policies of the architectural heritage, here including monitoring, management and retrofit.
- 2011 - 2014** **INNOVance – Industria 2015**
- INNOVance research project, co-funded by the Italian Ministry of Economic Development, wants to push a radical innovation into the Italian Construction sector by creating the Italian construction database, containing information about products, works, spaces, etc., along the whole constructions service life. This research wants to improve the efficiency in using and maintaining objects information, which is achieved by linking continually updated extensible life-cycle objects data to independent software, by using Building Information Models (BIM), throughout the entire life cycle.
- 2012 - 2013** **Building logbook – Development and verification of quality and efficiency indexes for building and/or building components assessment**
- The one year research project, funded by Opificium - Consiglio Nazionale Periti Industriali, led to a quick but accurate building survey procedure and some KPIs to gather and re-elaborate data to rate buildings (and their parts).
- 2003-2005** **Metodologie di progettazione e valutazione della durabilità dei componenti edilizi in processi di produzione sostenibili: valutazioni sperimentali di durabilità standard e loro correzioni per l'impiego del componente in specifiche condizioni di utilizzo finalizzate alla programmazione della manutenzione degli edifici**
- Co-funded by the Italian Ministry of Education, University and Research (MIUR) as a research projects of national interest (PRIN), the project aimed to develop experimental method for reference service life prediction of building components and design tools to modify the RSL into estimated service life for building façade maintenance planning

2001 - 2003 Reingegnerizzazione dei processi costruttivi e gestionali per gli interventi edilizi

Co-founded by the Italian Ministry of Education, University and Research (MIUR) as one of the research projects of national interest (PRIN), the project aimed to develop new tools to manage construction and maintenance of building.

2000 Gara di appalto per i servizi di ricognizione del patrimonio immobiliare di edilizia residenziale civile, economica e popolare del Comune di Milano

The research, funded by the Municipality of Milano, aimed at reviewing the tender documents for the survey of social housing owned by the Municipality.

PUBLICATIONS

BOOKS
in the last 10 years

M. Antonini, E. Berli, L. Mussinelli, F. Re Cecconi (2020). Progettare strutture in acciaio, V Edizione. Maggioli editore, Santarcangelo di Romagna (RN)

M. Fiori, F. Re Cecconi (2018). Impianti idrico-sanitari, di scarico e di raccolta delle acque nell'edilizia residenziale. Calcoli e dimensionamenti, materiali, esecuzioni e collaudi. II Edizione. Maggioli editore, Santarcangelo di Romagna (RN)

Di Giuda G., Maltese S., Re Cecconi F., Villa V. (2017). Il BIM per la gestione del patrimoni immobiliari. Linee guida, livelli di dettaglio informativo grafico (LOD) e alfanumerico (LOI). p. 1-320, Milano: Ulrico Hoepli spa, ISBN: 9788820381639

Dejaco M.C., Re Cecconi F., Maltese S., (2017) Il libretto del fabbricato. Maggioli Editore. Santarcangelo di Romagna (RN)

S. Lupica Spagnolo, D. Pasini, A. Pavan, B. Daniotti, F. Re Cecconi, E. Oliveri, R. D'Alessandro, A. Di Fusco, M. Pola, P. Rigone, (2017) L'ottimizzazione del processo edilizio attraverso una gestione efficiente delle informazioni: classificazione, codifica e schede tecniche digitali, EdilStampa S.r.l., ISBN 978-88-7864-121-1

A. Pavan, S. Lupica Spagnolo, B. Daniotti, F. Re Cecconi, M. Mancini, V. Caffi, (2017) La piattaforma digitale nazionale INNOVance a supporto della filiera delle costruzioni, EdilStampa, ISBN 978-88-7864-120-4

Re Cecconi F., Marcon F. (2012). Manutenzione e durata degli edifici e degli impianti. Maggioli Editore. Santarcangelo di Romagna (RN)

M. Fiori, F. Re Cecconi (2011). Impianti idrico-sanitari, di scarico e di raccolta delle acque nell'edilizia residenziale. Calcoli e dimensionamenti, materiali, esecuzioni e collaudi. Con CD-ROM. Maggioli editore, Santarcangelo di Romagna (RN)

Re Cecconi F., Antonini M. (2012). Manuale del collaudo e dei controlli tecnici. Maggioli Editore, Santarcangelo di Romagna (RN)

Re Cecconi F., Cerutti A. (2011). Verifica e validazione del progetto esecutivo. Maggioli, Santarcangelo di Romagna (RN)

F. Re Cecconi, M. Frassinelli, A. Mainini (2011). Il progetto esecutivo degli edifici in muratura. Maggioli Editore, Santarcangelo di Romagna (RN)

B. Daniotti, F. Re Cecconi (2010). Test methods for service life prediction. CIB International Council for Building Research and Information, Rotterdam

F. Re Cecconi, E. De Angelis (2010). Guasti in edilizia. Maggioli Editore, Santarcangelo di Romagna (RN)

CHAPTERS IN BOOK
in the last 3 years

Re Cecconi F., Tagliabue L.C., Moretti N., De Angelis E., Mainini A.G., Maltese S. (2020) Energy Retrofit Potential Evaluation: The Regione Lombardia School Building Asset. In: Della Torre S., Bocciarelli M., Daglio L., Neri R. (eds) Buildings for Education. Research for Development. Springer, Cham

Dejaco M.C., Re Cecconi F., Moretti N., Mannino A., Maltese S. (2020) Building and District Data Organization to Improve Facility and Property Management. In: Daniotti B., Gianinetti M., Della Torre S. (eds) Digital Transformation of the Design, Construction and Management Processes of the Built Environment. Research for Development. Springer, Cham

Re Cecconi F., Dejaco M.C., Moretti N., Mannino A., Blanco Cadena J.D. (2020) Digital Asset Management. In: Daniotti B., Gianinetti M., Della Torre S. (eds) Digital Transformation of the Design,

JOURNAL AND CONFERENCE
ARTICLE
in the last 3 years

Construction and Management Processes of the Built Environment. Research for Development. Springer, Cham

N. Moretti, J.D. Blanco Cadena, A. Mannino, T. Poli, F. Re Cecconi, (2020) Maintenance service optimization in smart buildings through ultrasonic sensors network, *Intelligent Buildings International*, DOI: 10.1080/17508975.2020.1765723

Tagliabue, L.C.; Re Cecconi, F.; Moretti, N.; Rinaldi, S.; Bellagente, P.; Ciribini, A.L.C. Security Assessment of Urban Areas through a GIS-Based Analysis of Lighting Data Generated by IoT Sensors. *Appl. Sci.* 2020, 10, 2174.

A. Mannino, N. Moretti, M.C. Dejaco, L. Baresi, F. Re Cecconi, Office building occupancy monitoring through image recognition sensors, *International Journal of Safety and Security Engineering*, 2019, vol. 9, issue 4, pages 371-380. <https://doi.org/10.2495/SAFE-V9-N4-371-380>

L.C. Tagliabue, F. Re Cecconi, S. Rinaldi, A. Flammini, A.L.C. Ciribini, Energy and comfort management of the educational spaces through IoT network for IAQ assessment in the eLUX lab, *SBE19 International Sustainable Built Environment Conference on Resilient Built Environment for Sustainable Mediterranean Countries*, (2019) IOP conference series. Earth and environmental science. <http://dx.doi.org/10.1088/1755-1315/296/1/012056>

N. Moretti, F. Re Cecconi, A cross-domain decision support system to optimize building maintenance, *Buildings* 2019, 9(7), 161; <https://doi.org/10.3390/buildings9070161>

F. Re Cecconi, N. Moretti, A. Mannino, M.C. Dejaco, Sustainability certification of construction products through BIM, *SBE19 International Sustainable Built Environment Conference on Resilient Built Environment for Sustainable Mediterranean Countries*, (2019) IOP conference series. Earth and environmental science. <https://doi.org/10.1088/1755-1315/296/1/012054>

L.C. Tagliabue, F. Re Cecconi, N. Moretti, M.C. Dejaco, The Influence of Energy Performance Certification the Market Value of Residential Buildings, *SBE19 International Sustainable Built Environment Conference on Resilient Built Environment for Sustainable Mediterranean Countries*, (2019) IOP conference series. Earth and environmental science. <https://iopscience.iop.org/journal/1755-1315>

F. Re Cecconi, N. Moretti, M.C. Dejaco, A Bibliometric Analysis on Costs Estimation of Building Retrofit, *SBE19 International Sustainable Built Environment Conference on Resilient Built Environment for Sustainable Mediterranean Countries*, (2019) IOP conference series. Earth and environmental science. <https://doi.org/10.1088/1755-1315/290/1/012136>

F. Re Cecconi, N. Moretti, M.C. Dejaco, Measuring the performance of assets: a review of the Facility Condition Index, *International Journal of Strategic Property Management*, 2019, 23(3), 187-196. <https://doi.org/10.3846/ijspm.2019.7955>

F. Re Cecconi, N. Moretti, L.C. Tagliabue, Application of artificial neural network and geographic information system to evaluate retrofit potential in public school buildings, *Renewable and Sustainable Energy Reviews*, Volume 110, 2019, Pages 266-277, ISSN 1364-0321, <https://doi.org/10.1016/j.rser.2019.04.073>.

J.D. Blanco Cadena, N. Moretti, T. Poli, F. Re Cecconi. Low-cost sensor network in cognitive buildings for maintenance optimisation. *Tema: Technology, Engineering, Materials and Architecture*, [S.l.], v. 5, n. 1, p. 93-102, June 2019. ISSN 2421-4574, <https://doi.org/10.17410/tema.v5i1.218>.

E. Seghezzi, G. Masera and F. Re Cecconi, Decision Support for existing buildings: an LCC-based proposal for facade retrofitting technological choices, *IOP Conf. Ser.: Earth Environ. Sci.* 296 012032, <https://doi.org/10.1088/1755-1315/296/1/012032>

F. Re Cecconi, N. Moretti, S. Maltese, L.C. Tagliabue, A BIM-Based Decision Support System for Building Maintenance, in: Mutis I., Hartmann T. (eds) *Advances in Informatics and Computing in Civil and Construction Engineering*. (2019) Springer, Cham, https://doi.org/10.1007/978-3-030-00220-6_44

F. Re Cecconi, N. Moretti, S. Maltese, M.C. Dejaco, J.M. Kamara, O. Heidrich, A rating system for building resilience, 2018, *Techne*, 15, pp. 358-365. ISSN 2239-0243, <http://dx.doi.org/10.13128/Techne-22119>

N. Moretti, F. Re Cecconi, S. Maltese, G. Branca, IFC-based maintenance budget allocation. 2018. In-BO. ISSN 2036-1602

TEACHING in the last 10 years

A.Y. 2019-20

Integrated Project Management and Design Tools
Politecnico di Milano – School of Architectural Engineering – Lecco

- Organizzazione del Cantiere
Politecnico di Milano – School of Architectural Engineering – Milano
Tecnologia e progettazione in ambiente BIM
Politecnico di Milano – School of Architectural Engineering – Milano
- A.Y. 2018-19 Integrated Project Management and Design Tools
Politecnico di Milano – School of Architectural Engineering – Lecco
Organizzazione del Cantiere
Politecnico di Milano – School of Architectural Engineering – Milano
Tecnologia e progettazione in ambiente BIM
Politecnico di Milano – School of Architectural Engineering – Milano
- A.Y. 2017-18 Integrated Project Management and Design Tools
Politecnico di Milano – School of Architectural Engineering – Lecco
Organizzazione del Cantiere
Politecnico di Milano – School of Architectural Engineering – Milano
Tecnologia e progettazione in ambiente BIM
Politecnico di Milano – School of Architectural Engineering – Milano
- A.Y. 2016-17 Integrated Project Management and Design Tools
Politecnico di Milano – School of Architectural Engineering – Lecco
Organizzazione del Cantiere
Politecnico di Milano – School of Architectural Engineering – Milano
- A.Y. 2015-16 Building and Construction Technologies
Politecnico di Milano – School of Architectural Engineering – Milano
Integrated Project Management and Design Tools
Politecnico di Milano – School of Architectural Engineering – Lecco
- A.Y. 2014-15 Building and Construction Technologies
Politecnico di Milano – School of Architectural Engineering – Milano
Maintenance management
Politecnico di Milano – School of Architectural Engineering – Lecco
- A.Y. 2013-14 Maintenance management
Politecnico di Milano – School of Architectural Engineering – Lecco
Building elements
Politecnico di Milano – School of Civil Architecture – Milano
- A.Y. 2012-13 Maintenance management
Politecnico di Milano – School of Architectural Engineering – Lecco
Building elements
Politecnico di Milano – School of Civil Architecture – Milano
- A.Y. 2011-12 Maintenance management
Politecnico di Milano – School of Architectural Engineering – Lecco
Maintenance Lab
Politecnico di Milano – School of Architectural Engineering – Milano
Building Site Organisation
Università degli studi di Bergamo – Department of Engineering – Bergamo
- A.Y. 2010-11 Building pathology and diagnostics
Politecnico di Milano – School of Architectural Engineering – Lecco
Maintenance Lab
Politecnico di Milano – School of Architectural Engineering – Milano



24th June 2020

Autorizzo il trattamento dei miei dati personali ai sensi del Decreto Legislativo 30 giugno 2003, n. 196 "Codice in materia di protezione dei dati personali".

