

Carol Monticelli

Carol Monticelli (1977), is an architect, PhD in Technology and design for environmental quality on a building and urban scale and an associate professor of 2019 for the disciplines of the SSD ICAR/12 Architectural Technology. She conducts research with the TAN group (Textile Architecture Network) in connection with the activities of ClusTex, a multidisciplinary cluster on innovative textiles, within the TEXTILES Hub interdepartmental laboratory of the Politecnico di Milano. She carries out teaching activities for the disciplines of the ICAR/12 subjects in the Degree Courses of Architecture and Architectural Design, she has carried out teaching activities in the Environmental Architecture Degree Courses of the School of Architecture and Society of the Polytechnic of Milan and in the Course of Architecture sciences and Construction Architecture of the School of Civil Architecture of the Politecnico di Milano.

The research activity is characterized, on the one hand, by a constant interest in exploring the issues of eco-sustainable design of buildings and environmental impact in construction, with particular attention to the evaluation of environmental impacts of materials and technologies in the various phases of the building process, and on the other hand by an interest in the processes of technological and material innovation, in order to analyze the evolution in the use of traditional materials, dictated by the new performances and regulatory requirements, and the scenarios of application of new materials in the building sector.

The teaching activity is characterized by two main types of commitment and thematic studies.

On the one hand - the teaching assignment of the course of Design of elements and systems and then of Technology of Architecture in the Laboratory of Architecture construction 1 (from aa. 2008-2009) - the thinking on the themes of living in the contemporary world, - the continuous renewal of needs and requirements, - the multiplicity of actors and the indispensable cultural references to the project, - the connections between economy and ecology constitute the theoretical presuppositions for a design experimentation conducted on the scale of residential buildings.

On the other hand, in the field of technological culture teaching of the Architectural Design Laboratory (2007-2008, academic year 2008-2009, aa.2009-2010), in the first level degree of the Course of Degree in Architecture of Construction, and of Architectural Technology Fundamentals (ay 2014-2015, ay 2015-2017, ay 2016-2017) of the Master's Degree in Architecture - Architectural Design, the concepts concerning the phases were examined in depth verification projects, evaluation of material and technological choices in relation to compositional choices and performance compliance with the intended use of the projects, for the executive definition of some parts of the project.

Finally there is the activity of support to the elaboration of the doctoral theses (co-tutor of 4 PhD theses in Technology and Project for the Built Environment), of degree (speaker at 12 master degree thesis, co-supervisor of 4 Masters thesis (2 of them with honors), supervisor of 39 theses (7 of them with honors) of Bachelor Degree and co-supervisor of 9 Bachelor thesis starting from the academic year 2003-2004), intended as a privileged moment of deepening of energy and environmental issues linked to the optimization of the quality of building products and of construction techniques and technologies, and also as a moment of investigation of the environmental profile of technologies

and materials, from traditional to the most innovative: themes that are the main interest of the activity scientific.

TRAINING

2006 22 May PhD title with merit in Technology and project for environmental quality at building and urban scale, at the Politecnico di Milano, BEST Department - Building Environment Science & Technology, with the thesis entitled “Building process and environmental quality. Potential limits of the LCA methodology applied to experimental envelope solutions”, tutor prof. A. Campioli.

2002 15 July Graduated in Architecture, at the Politecnico di Milano, Faculty of Architecture with 100/100 cum Laude, with a thesis entitled “Pre-cast Concrete with recycled aggregates. Experimentation and application hypothesis to a prefabricated housing module”, tutor Anna Mangiarotti, co-tutors Alessandra Zanelli, Elsa Garavaglia, external consultant eng. Cristina Zecca, Gruppo Zecca Prefabbricati Company.

PROFESSIONAL ACTIVITY

From 2019 Associate Professor with full-time degree at the Department of Architecture, Construction Engineering and Built Environment, Milan Polytechnic.

2016 - 2019 (September) Assistant professor (Senior) with full-time status at the Department of architecture, construction engineering and the built environment, Politecnico di Milano.

2013 - 2016 (31 May) Assistant Professor (Junior) with full-time status at the Department of Architecture, Construction Engineering and the Built Environment, Milan Polytechnic.

2015 - today Member of Textiles HUB, the interdepartmental laboratory on textile materials and polymers POLIMI and responsible for the management of the Biaxial Mechanical Testing Room and laboratory equipment.

2013 - today Participant in the work area *Advanced materials* of the Department of Architecture, Construction Engineering and Built Environment, Politecnico di Milano.

2012 - today Contact person for the operation of the ClusTEX pavilion and managerial and operational manager of the test room with biaxial traction machine for textiles and composites.

2011- today As a member of ClusTEX (Multidisciplinary Interdepartmental Cluster of Research on Innovative Textiles), Politecnico di Milano, is responsible for the equipment of the clusTEX pavilion for the part of ETFE film and tire technologies.

Since 2008 member of the scientific committee and operational member of clusTEX, the multidisciplinary research cluster on POLIMI's innovative textiles; 6 fields of scientific research are involved. The statute of the cluster was approved by the Academic Senate in February 2009, involves five POLIMI departments (Department ABC, Department of Chemical Engineering and Materials, Department of Mechanical Design, Department of Mechanical Engineering and Department of Civil and Environmental Engineering).

From 2012 participates in European collaborative projects: - S (P) EEDKITS funded by EU within the FP7, THEME [SEC-2011.4.2-3], “Rapid deployment of shelters, facilities and

medical care resources following a major disaster - Integration Project ", Consisting of a multidisciplinary group, made up of different organizations (2012 - 2016); - 7th EU FP Collaborative Program EASEE 2012/2016 (20 consortium beneficiaries such as EMPA, National Technical University of Athens, Ridan SP Zoo, Magnetti, D'Appollonia. BPIE, Integrated Environmental Solutions Limited) in Existing multi-storey multi-owner residential buildings "(2012 - 2016). From 2012 participates in national funded projects: - Regional Program Tifain - Integrated photovoltaic glass tiles for innovative architectural applications (Integrated photovoltaic glass tiles for innovative architectural applications) National, funded by Lombardy Region & European Regional Development Fund (ERDF) and Ministry of Education , University and Research; - SOFT (Smart, Organic, Flexible and Translucent) - PV: Creation of a Photovoltaic Organic Cell on Fluor-polymeric Substrate to Integrate Smart Building Envelopes, National, Co-financed project - Polimi and Cariplo Foundation.

PARTICIPATION IN ASSOCIATIONS OR WORKING GROUPS WITH PRESTIGE IN THE DISCIPLINARY SCIENTIFIC SECTOR

Dal 2019 she is member of the action EU-COST "European Network to connect research and innovation efforts on Advanced Smart Textiles" (CONTEXT) CA17107, in the working group *WG4 Buildings and Living*.

Dal 2015 she was coordinator of the Working Group "*Life Cycle Assessment*" (ora *Sustainability and Comfort*) together with prof. J. Cremers, Stuttgart, Germany, into the activity of the *Tensinet network - the thematic network for upgrading the built environment in Europe through tensile structures*.

2013 - 2017 she was member of the action EU -COST TU 1303 (Transport and Urbanism) in the topic "*Novel Structural Skins Improving sustainability and efficiency through new structural textile materials and designs*" (coord. M. Mollaert, VUB Bruxelles, e P. Goesling, University of New Castle) and takes part as vice-coordinator of the Working Group 2 *Sustainability and Life Cycle Analysis of Structural Skins*.

From 2012 she is member of the SITDA - Italian Society of Architecture Technology and participates in the cluster working group "*NZEB - Nearly Zero Energy Buildings*" (coord. F. Tucci, Università "La Sapienza" Roma).

From 2009 she is active member of "*TensiNet – the thematic network for upgrading the built environment in Europe through tensile structures*"; è membro di IASS – The International Association for Shell and Spatial Structures; she is member of the scientific committee of the Working Group 18 on Environmentally Compatible Structures and Structural materials (ECS) into the *IASS - International Association for Shell and Spatial Structures*, coordinated from the prof. Ludevit Vegh (CTU Faculty of Civil Engineering, Prague) and she is active in the annual meetings.

From 2007 she is member of the Italian LCA network "*Rete italiana LCA*", from 2012 Italian association LCA "*Associazione Italiana LCA*", and belongs to the work group "Construction and indoor environments conditioning".

CONSEGUIMENTO DI PREMI E RICONOSCIMENTI PER L'ATTIVITÀ SCIENTIFICA

- 2018 Winner of the Harting Award, together with V. Carvelli, for the best paper published in the International Journal Experimental Techniques in 2017, promoted by the Society for Experimental Mechanics SEM. The award was presented in the SEM's Annual Conference, June 4-7 in South Carolina, USA. The paper is entitled "Biaxial Loading of a Textile Ribbons Structure for an Inflatable Module of Space Habitats" Experimental Techniques (2017) 41 (1): 9-17
- 2012 Winner of a public selection competition for the awarding of a research grant S(P)EEDKITS, Dept. BEST Politecnico di Milano for 1 year
- 2009 Winner of a public selection competition for the awarding of a research grant BEST Dept. co-financed with the Politecnico di Milano for 2 years 5 months and 15 days.
- 2008 Postdoctoral scholarship winner (1 year) awarded by the Fratelli Confalonieri Foundation (competition "for scholarship for post-doctoral research to be held at the Milan University 2007-2008")
- 2008 Winner of the "2007 Thesis Award" organized by the Order of Engineers of Bolzano, international commission, for a doctoral thesis worthy of mention on the themes of innovation in the design and construction process, awarded in Bolzano during the annual assembly.
- 2006 Winner of the public selection competition for the awarding of a research grant for the 1-year collaboration in the research program entitled "Environmental behavior of technical solutions for brick casing", Dept. BEST Politecnico di Milano.
- 2004 Winner of a scholarship and postgraduate scholarship awarded by the Confalonieri Foundation, after having taken part in the two-year "Scholarships for research doctorates from the 2003-2004 Milanese universities", at the BEST Dept. of Politecnico di Milano.
- 2004 Winner of the "Egisto Camerini Award" degree award from ASSOBETON - National Association of cement-based products for a degree thesis worthy of mention on the subject of precast concrete, awarded in Rome during the ASSOBETON National Convention on 12 June 2004.

PARTECIPAZIONE A COMITATI SCIENTIFICI E A COMITATI REDAZIONALI

- 2016-2019 She collaborates with the international journals being part of the reviewers' board, such as *International Journal of Environment and Development, Sustainability, Journal of Applied Polymer Science, Composite Materials, Int Journal of LCA, Int Journal of Technology Innovations in Renewable Energy, Journal of Industrial textiles, Textile Research Journal, Science of Total Environment*.
- 2014-2015 she was part of the scientific committee for the *peer review* procedure of the papers in the International Association for Shell and Spatial Structures (IASS) Symposium 2015 WG12 + 18, April 11-12 alla Tokyo Denki University, Senju Campus ("TDU"), Japan.
- 2013 she was part of the scientific committee for the *peer review* procedure of the papers in the 11th International seminar on Environmentally Compatible Structures and Structural Materials at the University of Technology, Department of Architecture, di Cluj-Napoca, Romania, 7-9 November 2013
- 2010-2011 she was part of the scientific committee organization of the SEWC2011 – Structural Engineers World Congress 2011, and specifically for the parallel session "Environment", held in Como.
- 2007 she collaborated with Alessandra Zanelli to the creation of the website www.architetturatessile.polimi.it, now www.textilearchitecture.polimi.it, contributing to the

website architecture and to the contents' editing.

She collaborates with the journals *Arketipo* (from 2008), *Costruzioni Metalliche* - Section Architecture (from 03/2008), *Costruire in Laterizio* (from 2007), *Industria dei laterizi*, *Costruire*, *Elementi - temi di costruzione dell'architettura* – Materials and Technics special section (from 01/2010 to 12/2013).

OTHER COMPETEN

Langueges: Italian (mother tongue)
English (written/oral high level)
German (written/oral high level)

SUPERVISION OF BACHELOR AND MASTER STUDENTS, PHD STUDENTS, FELLOWS - 2007-2019

Tutor of 1 DCHEM/DABC PhD student, Co-tutor of 2 TEPAC PhD students and co-tutor of 3 research fellows, Dept. of Architecture, Construction Engineering and Built Environment, Milan Polytechnic; Tutor of 39 three-year undergraduate thesis (10 of them with honors), - co-tutor of 9 Bachelor's thesis, at the School of Architecture and Society, in the degree courses of Architecture Science, Environmental Architecture and the School of Construction Engineering - Architecture, Polytechnic University of Milan. Supervisor of 12 master's degree theses, - co-tutor of 4 master's thesis (2 of them with honors), at the School of Architecture and Society, in Master Degree Programs in Architecture and Architecture - Architectural Design, at the School of Building Engineering - Architecture, Milan Polytechnic. Tutor of 58 students for their external internships at companies or professional design studios. Tutor of 40 students for internal internships in collaboration with the SPACE research group of the ABC Dept., Polytechnic of Milan and with the research activities of the Textile Architecture Network.

PUBLICATIONS

As Autor

2019 in fase di pubblicazione, Zanelli A., MONTICELLI C., Z. Fan, N. Jakica, *Flexible transparencies in architecture | Reviews on the ETFE and OPV technologies*, Polimi SpringerBriefs, Cambridge, p. 1-135

2013, MONTICELLI C., *Life Cycle Design in architettura. Progetto e Valutazione di Impatto Ambientale dalla Materia all'Edificio*, Maggioli, Santarcangelo di Romagna, ISBN 9788838762499, con contratto di pubblicazione e cessione dei diritti.

Book Editor

2019, Zanelli A., MONTICELLI C., Mollaert M., Stimpfle B. (eds.), Proceedings of the TensiNet Symposium 2019 Softening the habitats, 3-5 giugno 2019, Politecnico di Milano, Milano, Italia, e-book Maggioli.

2016, Zanelli A., Spinelli M.L., MONTICELLI C., Pedrali P. (editors), *Lightweight Landscape. Enhancing Design through Minimal Mass Structures*, Polimi – SpringerBriefs, e-book ISBN 978-3-319-21665-2, soft cover ISBN 978-3-319-21664-5.

2012, MONTICELLI C., (volume editor), *PROCEEDINGS of the 9th INTERNATIONAL SEMINAR on ECS help at MILANO - Como, Italy, SEWC 2011 on 6th April 2011*, Poliscript, Milano, ISBN 97888 6493 011 4, con contratto di pubblicazione e cessione dei diritti sottoscritto.

2009, MONTICELLI C., Secchi S., (a cura di) *Prestazioni termiche e acustiche di soluzioni di involucro in laterizio faccia a vista*, ANDIL, sezione Faccia a Vista, Laterservice, Roma.

Essays in collective books

2019 Zanelli A., Campioli A., MONTICELLI C., Viscuso S., Giabardo G., *Nuove applicazioni tessili per ridefinire la risposta alle emergenze umanitarie: il progetto S(P)EEDKITS*, in Aste N., Rossi C., Talamo C. (a cura di), *Progetti strategici Vol. 3 - Building Africa. Ricerca e sviluppo per la sostenibilità dell'ambiente costruito nel continente Africano*, Springer "Research for Development".

- 2019, Talamo C., Lavagna M., MONTICELLI C., *Nuovi modelli organizzativi e strumenti per la ri-produzione e il riutilizzo di componenti a vita breve provenienti dal rinnovo degli edifici adibiti al terziario*, in Lenzi C., Zanelli A., Cattaneo S. (a cura di), *Progetti strategici Vol. 2 - Rigenerare l'ambiente costruito. Una prospettiva di sviluppo economico circolare*, Springer "Research for Development".
- 2018, Tucci F., MONTICELLI C., *La dimensione dell'energia nel progetto per la resilienza edilizia e urbana*, in Lucarelli M.T., Mussinelli E., Daglio L. (a cura di), *Progettare Resiliente*, Maggioli, Santarcangelo di Romagna, ISBN 9788891628534, pp. 49-58.
- 2016, MONTICELLI C., Thiebat F., *Valutazione delle prestazioni energetico-ambientali / Energy and environmental performances assessment*, in Lucarelli M.T., Mussinelli E., Trombetta C. (a cura di), *Cluster in progress. La Tecnologia dell'architettura in rete per l'innovazione / The Architectural technology network for innovation*, Maggioli, Santarcangelo di Romagna, ISBN 9788891612496.
- 2016, MONTICELLI C., *Lightweight Materials and Environmental Quality Requirements*, in Zanelli A., Spinelli M.L., Monticelli C., Pedrali P. (editors), *Lightweight Landscape. Enhancing Design through Minimal Mass Structures*, Polimi – SpringerBriefs, e-book ISBN 978-3-319-21665-2, soft cover ISBN 978-3-319-21664-5.
- 2015, MONTICELLI C., *Membrane claddings in architecture*, in Llorens Duran J. I. (a cura di), in *Fabric structures in architecture*, Woodhead Publishing Ltd, Elsevier, Cambridge, Gran Bretagna, pp. 449-480, ISBN-13:978-1782422334 <http://dx.doi.org/10.1016/B978-1-78242-233-4.00014-0>.
- 2015, Lombardi S., MONTICELLI C., *Recent developments in architectural fabric structures in Europe: the example of Winter Garden, Verona, Italy*, in Llorens Duran, J. I. (a cura di), in *Fabric structures in architecture*, Woodhead Publishing Ltd, Elsevier, Cambridge, Gran Bretagna, pp. 749-771, ISBN-13:978-1782422334.
- 2009, MONTICELLI C., *Sostenibilità ambientale e prodotti edilizi*, in Bertoldini M., Campioli A. (a cura di), *Cultura tecnologica e ambiente*, Città Studi, Milano, pp. 103-120, ISBN/ISSN: 8825173423.
- 2009, MONTICELLI C., *Scocca sottile. Schede Progetto - scocca sottile*, in Campioli A., Zanelli A., *Architettura tessile. Progettare e costruire membrane e scocche*, Il Sole 24 Ore, Milano, pp. 320-358, ISBN/ISSN: 9788832473148.
- 2009, MONTICELLI C., *Progettare una scocca: attori, azioni e strumenti*, in Campioli A., Zanelli A., *Architettura tessile. Progettare e costruire membrane e scocche*, Il Sole 24 Ore, Milano, p. 202-210, ISBN/ISSN: 9788832473148.
- 2009, MONTICELLI C., *Prodotti per scocche*, in Campioli A., Zanelli A., *Architettura tessile. Progettare e costruire membrane e scocche*. p. 126-149, ISBN/ISSN: 9788832473148.
- 2009, MONTICELLI C., *Percorsi evolutivi e trasferimenti tecnologici nell'impiego delle scocche* in Campioli A., Zanelli A., *Architettura tessile. Progettare e costruire membrane e scocche*, Il Sole 24 Ore, Milano, pp. 42-62, ISBN/ISSN: 9788832473148.
- 2009, MONTICELLI C., *Il ruolo delle coperture per il risparmio energetico* in Campioli A., Lavagna M. (a cura di), *Raccomandazioni per la progettazione di edifici energeticamente efficienti*, Laterservice, Roma, pp. 118-124, ISBN/ISSN: 9788881381258.
- 2009, MONTICELLI C., *Filiera delle lavorazioni delle scocche*, in Campioli A., Zanelli A., *Architettura tessile. Progettare e costruire membrane e scocche*, Il Sole 24 Ore, Milano, pp. 110-125, ISBN/ISSN: 9788832473148.
- 2009, MONTICELLI C., *Criticità nella realizzazione di soluzioni tecniche di involucro ad alte prestazioni*, in Campioli A., Lavagna M. (a cura di), *Raccomandazioni per la progettazione di edifici energeticamente efficienti*, Laterservice, Roma, pp.125-130, ISBN/ISSN: 9788881381258.
- 2009, MONTICELLI C., *Analisi parametrica dei fattori di incidenza sulle prestazioni termiche degli elementi in laterizio per murature*, in Campioli A., Lavagna M. (a cura di), *Raccomandazioni per la progettazione di edifici energeticamente efficienti*, Laterservice, Roma, pp. 51-54, ISBN/ISSN: 9788881381258.
- 2009, MONTICELLI C., *Analisi delle norme tecniche per il calcolo delle prestazioni tecniche di prodotto*, in Campioli A., Lavagna M. (a cura di), *Raccomandazioni per la progettazione di edifici energeticamente efficienti*, Laterservice, Roma, p. 50, ISBN/ISSN: 9788881381258.
- 2009, Lavagna M., MONTICELLI C., *Soluzioni tecniche di chiusure verticali in laterizio per il risparmio energetico*, in Campioli A., Lavagna M. (a cura di), *Raccomandazioni per la progettazione di edifici energeticamente efficienti*, Laterservice, Roma, pp. 70-114, ISBN/ISSN: 9788881381258.
- 2009, Lavagna M. MONTICELLI C., Massone A., *L'informazione tecnica sulle prestazioni termiche dei prodotti in laterizio per le chiusure verticali*, in Campioli A., Lavagna M. (a cura di), *Raccomandazioni per la progettazione di edifici energeticamente efficienti*, Laterservice, Roma, pp. 47-49, ISBN/ISSN: 9788881381258.
- 2009, Angelotti A., MONTICELLI C., Morello E., *Procedure per il calcolo termico in regime stazionario e in regime dinamico sinusoidale*, in Campioli A., Lavagna M. (a cura di), *Raccomandazioni per la progettazione di edifici energeticamente efficienti*, Laterservice, Roma pp. 27-32, ISBN/ISSN: 978-88-8138-125-8.

2008, Neri P., MONTICELLI C., *I metodi di valutazione dell'impatto ambientale*, in Neri P. (a cura di), *Verso la valutazione ambientale. LCA a supporto della progettazione ecosostenibile*, Alinea, Firenze, pp. 49-70, ISBN/ISSN: 9788860551740.

2008, MONTICELLI C., *La metodologia LCA per la valutazione ambientale di sistemi di involucro sperimentali applicati all'edificio 'casa famiglia per minori' a Lodi*, in Neri P. (a cura di), *Verso la valutazione ambientale. LCA a supporto della progettazione ecosostenibile*, Alinea, Firenze, pp. 232-249, ISBN/ISSN: 9788860551740.

2006, MONTICELLI C., *Valutazione dell'impatto ambientale nel processo edilizio*, in Esposito M.A. (a cura di), *Tecnologia dell'architettura – Creatività e innovazione nella ricerca*. Materiali del I Seminario OSDOTTA, University Press, Firenze, pp. 253-260, ISBN – 10 88-8453-479-8 (on line), 10 88-8453-479-8 (print).

2004, MONTICELLI C., *L'impiego degli inerti riciclati per il calcestruzzo strutturale* in Sala M. (a cura di), *I percorsi della progettazione per la sostenibilità ambientale*, ed. Alinea, Firenze, 2004, pp. 376-379, ISBN: 888125882X.

2003. MONTICELLI C., (a cura di), *Approfondimento bibliografico* in Bertoldini M., Zanelli A. (a cura di), *Tecnica, progetto e scienze umane*, CLUP, Milano, pp. 97-103, ISBN8870906353, 9788870906356.

Articles in international scientific journals - peer reviewed

2020, Nguyen H., Kaas A., Kinnunen P., Carvelli V., MONTICELLI C., Yliniemi J., Illikainen M., "Hot-Pressed PVA Fiber Reinforced Alkali-Activated Mineral Wool Composites", *Cement and Concrete Composites*, Volume 186 (108315), <https://doi.org/10.1016/j.matdes.2019.108315>.

2018, Fan, Z., De Bastiani, M., Garbugli, M., MONTICELLI C., Zanelli, A., Caironi, M., "Experimental investigation of the mechanical robustness of a commercial module and membrane-printed functional layers for flexible organic solar cells", *Composites. Part B, Engineering*, DOI: 10.1016/j.compositesb.2018.04.007, Vol. 147, pp. 69-75.

2018, MONTICELLI C., Zanelli, A., "Le membrane strutturali in architettura: una soluzione eco-efficiente per il futuro? Structural membranes in architecture: an eco-efficient solution for the future?", *Technè, Matter is design* Anno 8, Vol. 16, pp. 235-246.

2017, Gargano M.; Ludwig N., MONTICELLI C., Rosina, E.; Zanelli, A., "Characterization of aged textile for archeological shelters through thermal, optical and mechanical tests", *Journal of Cultural Heritage*, Feb., Vol. 26, Feb, DOI: 10.1016/j.culher.2017.01.009, pp. 36-43.

2016, MONTICELLI C., Carvelli V., Fan Z., Valletti D., Nebiolo M., Messidoro A., "Biaxial loading of a textile ribbons structure for an inflatable module of space habitats", in *Experimental Techniques*, n. DOI 10.1007/s40799-016-0150-5. (per questo paper vince il premio Harting Award, insieme a V. Carvelli, per il miglior paper pubblicato nell'*International Journal Experimental Techniques* nel 2017, promosso dalla *Society for Experimental Mechanics SEM*)

Articles in national scientific journals - peer reviewed

2019, MONTICELLI C., "Junior Practice Hall for Töölö Football Field, Töölö, Helsinki, Finland - JKMM Architects" in *Arketipo*, n. 128, ISSN:1828-4450.

2019, MONTICELLI C., "Acciaio e intrecci strutturali a densità variabile. Bernard Tschumi Urban Architects and Hugh Dutton Associates, Passerella pedonale sopra la stazione, la-Roche-sur-Yon (Francia), 2008 - 2011", in *Costruzioni Metalliche*, n. 1, genn.-febb., pp. 74 - 85. ISSN: 0010-9673.

2017, MONTICELLI C., "Wien Hauptbahnhof, Vienna, Austria – Albert Wimmer, Ernst Hoffmann, Theo Hotz", in *Arketipo*, n. 113, pp. 62-71, ISSN:1828-4450.

2017, MONTICELLI C., "Acciaio e riqualificazione strutturale. Make architects, edificio per uffici LSQ London in Leicester Square, Londra (Regno Unito), 2013 - 2016", in *Costruzioni Metalliche*, n. 5, sett.-ott., pp. 101 - 115. ISSN: 0010-9673.

2016, MONTICELLI C., "New Street Station Birmingham, United Kingdom - AZPML and FOA", in *Arketipo*, n. 103, pp. 36-45, ISSN:1828-4450.

2016, MONTICELLI C., "Acciaio e ponti in movimento. NEXT architects, ponti Melkweg e piazza della stazione degli autobus, Purmerend (Paesi Bassi), 2007 - 2016", in *Costruzioni Metalliche*, n. 5, sett.-ott., pp. 27-38. ISSN: 0010-9673.

2016, MONTICELLI C., "New Street Station Birmingham, United Kingdom - AZPML and FOA", in *Arketipo*, n. 103, pp. 36-45, ISSN:1828-4450.

2015, MONTICELLI C., "Acciaio e schermature tessili Gerber Architekten, Biblioteca nazionale King Fahad, Riyadh, Arabia Saudita, 2004-2013", in *Costruzioni Metalliche*, n. 6, nov.-dic., pp. 13-22. ISSN: 0010-9673.

2015, MONTICELLI C., "Acciaio e performative architecture. Enric Ruiz Geli e Cloud 9, Edificio Media TIC, Barcellona, Spagna, 2007-2010", in *Costruzioni Metalliche*, n. 2, mar.-apr., pp. 15-27. ISSN: 0010-9673.

- 2014, MONTICELLI C., “Acciaio e luce. Selgascano, El “B” – Auditorium e Centro Congressi, Cartagena (Spagna), 2002-2011”, in *Costruzioni metalliche*, n. 2, mar.-apr., pp. 13 - 25, ISSN:0010-9673.
- 2013, MONTICELLI C., “Southern Cross Station in Melbourne, Australia — Nicholas Grimshaw & Partners and Daryl Jackson Architecture”, in *Arketipo*, n. 78, pp. 58-70, ISSN:1828-4450.
- 2013, MONTICELLI C., “Acciaio in esposizione. Zaha Hadid Architects, Nuovo museo dei trasporti e dei viaggi Riverside, Glasgow, Regno Unito, 2004-2011”, in *Costruzioni metalliche*, n. 1, genn.-febb., pp. 21- 31, ISSN:0010-9673.

Conference proceedings on *Procedia international scientific journals - peer reviewed*

- 2017, Masera G.; Ghazi Wakili K.; Stahl T.; Brunner S.; Galliano R.; MONTICELLI C., Aliprandi S.; Zanelli, A.; Elesawy A., “Development of a Super-insulating, Aerogel-based Textile Wallpaper for the Indoor Energy Retrofit of Existing Residential Buildings”, *Procedia Engineering*, Vol. 180, DOI:10.1016/j.proeng.2017.04.274, pp. 1139-1149.
- 2016, Barozzi M., Liehnard J., Zanelli A., MONTICELLI C., “The Sustainability of Adaptive Envelopes: Developments of Kinetic Architecture”, *Procedia Engineering*, Vol. 155, DOI: 10.1016/j.proeng.2016.08.029, pp. 275-284.
- 2016, MONTICELLI C., Zanelli A., “Life Cycle Design and Efficiency Principles for Membrane Architecture: Towards a New Set of Eco-design Strategies”, *Procedia Engineering*, Vol. 155, DOI: 10.1016/j.proeng. 2016.08.045, pp. 416-425.
- 2015, Aliprandi S., MONTICELLI C., Zanelli A., *Technical Textiles and Thin Insulation Materials. New Scenarios For The Energetic Retrofitting*, in 6th International Building Physics Conference, IBPC 2015, 14 - 17 Giugno 2015, Torino, in Yan J. (Advisory Editor), *Energy Procedia*, Science Direct Elsevier n. 69, 6 pagine su CDrom, ISSN 1876-6102, n. OCLC: 320354560.

Conference proceedings

- 2019 sottomesso e sotto valutazione, Mazzola C., Viscuso S., MONTICELLI C., Zanelli A., “*Environmental impact analysis of temporary structures using genetic algorithm: case study of an ultra-lightweight pavilion*”, Convegno *IASS Annual Symposium 2019 – Structural Membranes 2019*, Form and Force, Barcelona, Spagna, 7 - 10 Ottobre.
- 2019 sottomesso e sotto valutazione, Mazzola C., Viscuso S., MONTICELLI C., Zanelli A., “*LCA-integrated parametric model: a proposal of a methodological approach applied to an ultra-lightweight membrane-based structure*”, Convegno *Design Modelling Symposium Berlin 2019*, University of the Arts, Berlino, Germania, 23 - 25 Settembre.
- 2019 in fase di pubblicazione, MONTICELLI C., Zanelli A., “*Eco-design principles for a preliminary eco-efficiency assessment for the design phase: enlarging the application on membrane envelopes*”, Convegno *Tensinet Symposium 2019 Softening the Habitats – Sustainable innovation in minimal mass structures and lightweight architectures*, Milano, Italia, 3 -5 giugno, e-book Maggioli, pp 1-12.
- 2019 in fase di pubblicazione, Zanelli A., Kolo E., MONTICELLI C., Rosina E., Poli T., Speroni A., Mainini A. G., “*A tensile screen for the windows of Castello Sforzesco: integrating anemometric, optical and mechanical tests in the early-stage design of bespoke textile hybrid structures in historical contexts*”, Convegno *Tensinet Symposium 2019 Softening the Habitats – Sustainable innovation in minimal mass structures and lightweight architectures*, Milano, Italia, 3 -5 giugno, e-book Maggioli, pp 1-12.
- 2019 in fase di pubblicazione, Zanelli A., MONTICELLI C., Atawula N., “*Innovational Refugee Shelter Design with Pneumatic Sandwich Structure*”, Convegno *Tensinet Symposium 2019 Softening the Habitats – Sustainable innovation in minimal mass structures and lightweight architectures*, Milano, Italia, 3 -5 giugno, e-book Maggioli, pp 1-12.
- 2019 in fase di pubblicazione, Viscuso S., MONTICELLI C., Zanelli A., “*Development and validation of an experimental methodology for the characterization and FEM analysis of fibre-reinforced architectural meshes*”, Convegno *Tensinet Symposium 2019 Softening the Habitats – Sustainable innovation in minimal mass structures and lightweight architectures*, Milano, Italia, 3 -5 giugno, e-book Maggioli, pp 1-12.
- 2019, Poli T., Zanelli A., Rosina E., Speroni A., Mainini A. G., Blanco Cadena J. D., Kolo E., MONTICELLI C., “*A shading device for Environmental Conditions Control in the Sala delle Asse of Sforza Castle in Milan*”, poster session nel convegno *XXXIII Construction Technology Exhibit – Exco 2019, International Itinerant Exhibition “Research in building engineering – Exco ‘19”*, Valencia, Spagna, 28 Gennaio – 1 Febbraio.
- 2018, Pracchi V., Rosina E., Zanelli A., MONTICELLI C., “*Removable textile devices to improve the energy efficiency of historic buildings*”, in Atti di convegno della *III Conferenza internazionale sull’efficienza energetica negli edifici EEHB2018*, 26-27 settembre, Visby, Svezia, ISBN 978-91-519-08380, pp. 1-7.
- 2017, Zanelli A., Giabardo G., Viscuso S., MONTICELLI C., Cantini A., Mazzola C., “*Knowledge transfer into a system design process: the case study, of s(p)eedkits - rapid deployable kits as seeds of self-recovery*”, in Atti di

convegno del V CONVEGNO Coordinamento Universitario Cooperazione allo Sviluppo “Migrazioni, pace e sviluppo. Nuove sfide e nuovi volti per la cooperazione”, 14-15 settembre, Milano.

2017, MONTICELLI C., Zanelli A., Centrulli M., “Application and validation of eco-efficiency principles to assess the design of lightweight structures: case studies of ETFE building skins”, in: *Proceedings of the IASS Annual Symposium 2017 “Interfaces: architecture. engineering. science”*, International Association for Shell and Spatial Structures (IASS), 25-28 Settembre, Amburgo, Germania, pp. 1-10.

2017, Pracchi, V. N., Rosina, E. L’Erario, A., MONTICELLI C., Aliprandi, S., Zanelli, A., “From arazzo to textile based innovative system for energy efficiency of listed buildings”, in: *Proceedings of REHAB 2017 - 3rd International Conference on Preservation, Maintenance and Rehabilitation of Historical Buildings and Structures*, 14-16 Giugno, Braga, Portogallo, ISBN 978-989-8734-24-2, eISBN 978-989-8734-23-5, pp. 1-10.

2016, MONTICELLI C., Neri P., Zanelli A., Ferrari M. A., “LCA di un sistema di tessere trasparenti con fotovoltaico integrato per facciate innovative”, in: *Atti del Convegno dell’Associazione Rete Italiana LCA2016, Life Cycle Thinking, sostenibilità ed economia circolare*, 23 -24 giugno, Laboratorio Tecnografico ENEA, Frascati, ISBN: 978-88-8286-333-3, pp. 155-164.

2016, MONTICELLI C., Zanelli A., Aliprandi S., Pracchi V. N., Rosina E., “The energy efficiency improvement of listed buildings through textile-based innovative system”, in *Advanced Building Skins Conference*, Berna, Svizzera, 10 – 11 Ottobre, ISBN 978-3-98120539-8, pp. 192-202.

2015, MONTICELLI C., Zanelli A., *Eco-efficiency and life cycle analysis of structural membranes in architecture*, in Falk A., Vegh P. e Chilton J. (eds.), *Proceedings of the IASS WORKING GROUPS 12 + 18 International Colloquium 2015 “Bio-based and Bio-inspired Environmentally Compatible Structures”*, 10 - 13 Aprile, Tokyo Denki University, Tokyo, Giappone, 9 pagine su CDrom.

2014, Fan Z., Garbugli M., MONTICELLI C., Caironi M., Zanelli A., *Mechanical Robustness Investigation of Organic Photovoltaics for Membrane Integrated Flexible Solar Cells*, in The International Association For Shell And Spatial Structures - Working Group 18 - Cluj-Napoca, Romania, 7–9 Novembre 2013, U.T. Press, Cluj-Napoca, pp. 37-53, ISBN 978-973-662-970-9.

2014, Fan Z., Garbugli M., De Bastiani M., MONTICELLI C., Caironi M., Zanelli A., *Performance investigation of organic photovoltaic layers on architectural membrane*, in Conference Proceedings of the 9th Energy forum, Bressanone (BZ), 28-29 Ottobre, Economic Forum, Monaco, Germania, pp. 1203-1217, ISBN 978-3-98120537-4.

2014, MONTICELLI C., Aliprandi S., Giurdanella V., Viscuso S., Zanelli A., *Rethinking waste: a temporary eco-structure built with second hand components*, in Vegh L., Novak J., Valentin J. (a cura di), International Association for Shell and Spatial Structures (IASS WG 18) - Proceedings of the 10th Jubilee International Correspondence Seminar on Environmentally Compatible Structures (ECS), Aprile, Czech Technical University, Praga, Rep. Ceca, pp. 42-58, ISBN 978-80-01-05507-6.

2013, Zanelli A., MONTICELLI C., Viscuso S., Mazzola C., *Parametric design and the manufacturing process of an ultra-lightweight roof system for humanitarian relief contexts*, in Escrig F. e Sanchez J. (eds.) Proceedings of the First Conference Transformables 2013, 18-20 Settembre 2013, Scuola di Architettura di Siviglia, Spagna, Editorial Starbooks, Siviglia, pp. 305-310, ISBN 978-84-939565-3-0.

2013, MONTICELLI C., Zanelli A., Campioli A., *LCA comparativa di sistemi di rivestimento leggeri per la riqualificazione delle chiusure verticali esterne di edifici*, in Scialbi S., Reale F. (eds.), VII Congress of the LCA Italian Net – Life Cycle Assessment and environmental assessment: applications and methodological developments, Politecnico di Milano, Milano, 27-28 Giugno 2013, pp. 233-240, ISBN 9788882862923.

2013, MONTICELLI C., Giurdanella V., Aliprandi S., Viscuso S., Zanelli A., *Life Cycle Assessment di un padiglione temporaneo: strategia virtuosa del riuso di componenti e prodotti*, in Scialbi S., Reale F. (eds.), VII Congress of the LCA Italian Net – Life Cycle Assessment and environmental assessment: applications and methodological developments, Politecnico di Milano, Milano, 27-28 Giugno 2013, pp. 226-232, ISBN 9788882862923.

2013, Zanelli A., MONTICELLI C., Aliprandi S., Viscuso S., *The design and creation of a temporary textile pavilion at PoliMi*, in Bogner-Balz H., Mollaert, E. Pusat M. (eds.), Tensinet 2013 [Re]thinking Lightweight Structures, Mimar Sinan Fine-Art University, Istanbul, Turchia, 8-10 Maggio 2013, pp. 585-594, ISBN 9789072325068.

2013, MONTICELLI C., Zanelli A., Campioli A., *Life cycle assessment of textile façades, beyond the current cladding systems* in Bogner-Balz H., Mollaert M., Pusat E. (eds.), Tensinet 2013 [Re]thinking Lightweight Structures, Mimar Sinan Fine-Art University, Istanbul, Turchia, 8-10 Maggio 2013, pp. 467-476, ISBN 9789072325068.

2013, MONTICELLI C., Lombardi S., Würfl C., Mohamed Ibrahim H., *Ellipsoidal shape and daylighting control for the ETFE pneumatic envelope of a winter garden*, in Bletzinger K.-U., Kröplin B. and Oñate E. (a cura di), Proceedings of VI International Conference on Textile Composites and Inflatable Structures Structural Membranes - Thematic Conference of the European Community in Computational Methods in Applied Science, 9-11 Ottobre, Monaco, Germania, stampato da Artes Graficas Torres S.A., Barcellona, Spagna, pp. 340-351, ISBN 978-84-941686-0-4.

- 2013, MONTICELLI C., Aliprandi S., Giurdanella V., Viscuso S., Zanelli A., *Reuse of materials and components to build a temporary eco-structure*, in Obrębski J.B. and Tarczewski R. (eds.), Proceedings of the International Association for Shell and Spatial Structures (IASS) Symposium 2013 “Beyond the limits of man”, Wrocław University of Technology, Wrocław, Polonia, 23-27 Settembre, p.178 (abstract), 10 pagine su CDrom, ISBN 9788374937870.
- 2013, Elesawy A.A., Aliprandi S., MONTICELLI C., Masera G., Zanelli A., *Thermal Performance of Retrofitted Envelopes with Internal Insulation: A Comparative Analysis*, in Lang W. (eds.) Proceedings of PLEA2013 - 29th Conference “Sustainable Architecture for a Renewable Future”, 10-12 Settembre 2013, Monaco, Germania, Fraunhofer IRB Verlag, pp. 750-755, ISBN 9783816790540.
- 2012, Zanelli A., Beccarelli P., MONTICELLI C., Maffei R., Ibrahim Mohamed H., *Technical and manufacturing aspects in order to create a smart façade system with OPV integrated into ETFE foils*, Proceedings of the International Symposia IASS-APCS 2012 - From spatial structures to space structures, Seoul, Korea, 21-24 May 2012, 9 pagine.
- 2011, Zanelli A., MONTICELLI C., Beccarelli P. e Mohamed Ibrahim H., *Experimental manufacture of a pneumatic cushion made of ETFE foils and OPV cells*, in International Conference on Textile Composites and Inflatable Structures STRUCTURAL MEMBRANES 2011, edited by Oñate E., Kröplin B. and Bletzinger K.-U.- CIMNE, Barcellona, Spagna, 5-7 Ottobre 2011, pp. 279-290, ISBN 978-84-89925-57-1.
- 2011, MONTICELLI C., Re Cecconi F., Pansa G., Mainini A., *Influence of degradation and service life of construction materials on the embodied energy and the energy requirements of buildings*, in XII DBMC International Conference on Durability of Building Materials and Components, Porto, Portogallo, 12-15 Aprile 2011, vol. 4, pp. 2141-2148, ISBN 9789727521326.
- 2011, MONTICELLI C., *Environmentally compatible structures ECS: introduction of principles and design characteristics*, in SEWC 2011 – Structural Engineers World Congress, edited by Sundaram R., Giuliani G.C., De Col R., Capsoni F., Siviero E., Como, 4-6 Aprile 2011, su CDrom.
- 2010, MONTICELLI C., *Environmental assessment of ultralight roof structures built with new materials: the case of the ETFE cushions*, in Vegh L. (eds.) Environmentally compatible structures and structural materials (ECS), Czech Technical University, Praga, Rep. Ceca, 24-25 Settembre 2009, pp. 28-37, ISBN/ISSN: 9788001045060.
- 2009, MONTICELLI C., Campioli A., Zanelli A., *Environmental profile of lightweight roof structures built with new materials: the case of the ETFE pillows*, in Structural Membranes 2009 - III International Conference on Textile Composites and Inflatable Structures, Stoccarda, Germania, 5 – 7 Ottobre 2009, 6 pagine su CDrom.
- 2009, MONTICELLI C., Campioli A., Zanelli A., *Environmental load of ETFE cushions and future ways for their self-sufficient performances*, in Symposium International Association for Shell and Spatial Structures (IASS) 2009, Evolution and Trends in Design, Analysis and Construction of Shell and Spatial Structures, Valencia, 28/9/2009 - 2/10/2009, Valencia, p. 200-201, 13 pagine su CDrom, ISBN/ISSN: 9788483634592.
- 2009, MONTICELLI C., Campioli A., Zanelli A., *Consumo sostenibile di materiali edilizi: l'approccio LCA e la leggerezza per la scelta di una copertura trasparente*, in Ecomondo – 13° Fiera Internazionale del Recupero di Materia ed Energia e dello Sviluppo Sostenibile - Green solutions, nella sezione “Ecodesign per il pianeta. Soluzioni per un ambiente pulito e per una nuova economia - Tematiche integrate Rete Italiana di LCA”, Rimini, 28-31 ottobre 2009, Maggioli, Santarcangelo di Romagna, pp. 966-971, ISBN/ISSN: 8838753601.
- 2008, MONTICELLI C., *L'incidenza dello scenario di fine vita dei componenti nella valutazione ambientale LCA alla scala edilizia*, in “Europa del recupero: le ricerche, le tecnologie, gli strumenti e i casi studio per una cultura della responsabilità ambientale - LCA&Innovazione in Italia buone prassi e casi di successo”, Ecomondo - 12° Fiera Internazionale del Recupero di Materia ed Energia e dello Sviluppo Sostenibile,, Rimini, 5-8 Novembre 2008, Maggioli, Santarcangelo di Romagna, pp. 526-533, ISBN/ISSN: 978883874854.
- 2007, MONTICELLI C., *LCA of innovative high energy performance envelope*, in “From analysis to implementation” 3rd International Conference on Life Cycle Management, Zurich, 27-29 Agosto 2007, 6 pagine su CDrom.
- 2007, MONTICELLI C., *La chiusura del ciclo: il fine vita di prodotti edilizi come risorsa di materiali e energie (evitate)* in Bioedilizia Italia Congresso Nazionale sull'Edilizia Sostenibilità: BioEdilizia, Torino, Giugno 2007, Celid, 8 pagine su CDrom.
- 2007, MONTICELLI C., *Environmental Damage and Energy Consumption: the Life Cycle Analysis in building process* in International Conference Sustainable Conference South Europe Proceedings, Torino, Giugno 2007, Celid, pp. 285-292, ISBN: 108876617485, 13 9788876617485.
- 2006, MONTICELLI C., *Environmental profile and Building Process. Life Cycle Assessment application to experimental dry external wall Construction System*, in Clever Design, Affordable Comfort a Challenge for Low Energy Architecture and Urban Planning PLEA 2006, 23th International Conference on Passive and Low Energy Architecture, Ginevra, Svizzera, Imprimerie St.Paul, Fribourg, September 2006, pp. 1023-1028, ISBN: 294015631X.

Patent

Registered Patent n. 102015000071514 “Functional upholstery system, installation method for this upholstery, installation kit for this upholstery”, 11/11/2015.

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Milano, 4th December 2019

Signed

A handwritten signature in blue ink, appearing to read "Paolo Lucattini", is written over a solid horizontal black line.