

Andrea Campioli (1962), architect, Ph. D. in Architectural Technology, since 2005 he's full professor of Architectural Technology at the Politecnico di Milano where he carries out research activity in the Department of Architecture, Built Environment and Construction Engineering (ABC) and he teaches in bachelor and master courses at the school of Architecture Urban Planning Construction Engineering.

In the same university he has been the board president of the Laurea Programme in Sciences of Architecture from 2007 to 2010. He has been member of the University Assessment Commission from 2011 to 2016 and he is the board coordinator of the Laurea Programme in Architectural design (given in Milano, Mantova and Piacenza) since 2016.

He has been on the board of the PhD programmes "Technology and design for the environmental quality at urban and building scale (from 16° to 19° cycle)" "Technology and Design for Environment and Building" (from 20° to 28° cycle) and he is on the board of the PhD programme "Architecture, built environment and construction engineering" (since 29° cycle). He is responsible of the PhD course "Epistemology for scientific and technological research".

The main interests and expertises are about technic and technological innovation in construction, with particular attention towards environmental sustainability of buildings and components in the whole life cycle.

The focuses in the environmental innovation field are: environmental innovation strategies (low-intensity material, low energy intensity, recyclability, reversibility, etc.) in construction techniques, processes and architectural solutions oriented toward environmental sustainability; Life Cycle Analysis of building products, technical systems and buildings. Survey deals with environmental improvements induced by energy efficiency targets on architectural design, buildings, technical systems and products.

The focuses in the environmental sustainability evaluation are: critical analysis of the assessment tools and the environmental certification schemes applied both to the scale of the building and to the scale of the materials / building products; Green Rating Systems (LEED, BREEAM, DGNB, etc.); Life Cycle Assessment; methodological upgrading proposals; integration with other tools for assessing sustainability, economic and social (Life Cycle Costing, Social Life Cycle Assessment).

He carried out funded research activity:

*Rehabilitation and heritage management Strategies and intervention techniques for the redevelopment of large public housing districts*, Ministry of Education, University and Research, PRIN 1998, 1999-2000, member of the research team;

*Design hypotheses and construction techniques for the realization and adaptation of temporary dwellings*, Ministry of Education, University and Research, PRIN 2000, 2001-2002, scientific coordinator;

*Techniques, technologies and production scenarios for the construction of buildings with medium and large spans*, Cividini prefabbricati Spa, 2002, scientific coordinator;

*Thermal performance and environmental behavior of rock wool insulation materials for the energy efficiency of buildings*, Rockwool spa, 2004, scientific coordinator;

*Membranes and shells for diffused architecture. Design with the information*, Ministry of Education, University and Research, PRIN 2005, 2006-2007, scientific coordinator.

*Thermal performance and environmental behavior of technical solutions of brick casing aimed at the energy efficiency of buildings*, ANDIL National association of bricks industries, 2006-2008, scientific coordinator;

*Technological-energetic-environmental evaluation of the project of the elderly center ex Villa Bocchini in Marsciano (PG)*, ANDIL National association of bricks industries, 2007, scientific coordinator;

*Energy for building, energy for living: energy and environmental optimization of technical solutions for brick envelopes*, ANDIL National association of bricks industries, 2009-2010, ANDIL National association of bricks industries, scientific coordinator;

*Measuring the environmental impact. Environmental information and LCA profile of aerated concrete building systems*, Xella Italia srl, 2013, scientific responsible.

*SOFT (Smart, Organic, Flexible and Translucent) – PV. Creation of a Photovoltaic Organic Cell on Fluoropolymeric Substrate to Integrate into Smart Building Envelopes*, CARIPLO Foundation, 2010-2011, member of the research team.

*TIFAIN (Tessere Integrate di vetro Fotovoltaico per applicazioni Architettoniche INnovative)*, Region Lombardy, 2012-2014, member of the research team.

*Basket-of-products indicators. The measure of environmental impacts of average European citizen for housing. LCA of representative products for the category of housing and eco-innovation strategies/targets development*, European Commission, Joint Research Center, Institute for Environment and Sustainability, 2014, member of the research team.

*Built Heritage Information Modelling/ Management – BHIMM. LCA based information for the measure of the sustainability of building conservation practices*, Ministry of Education, University and Research, PRIN 2010-2011, 2012-2013, member of the research team;

*Measuring the environmental impact. Environmental information and LCA profile of aerated concrete building systems*, Xella Italia srl, 2013, scientific coordinator.

*S(P)EEDKITS: Rapid deployment of shelters*, UE Seventh Framework Programme 2011, Principal investigator Alessandra Zanelli, 2012-2016, member of the research team;

*BIMReL, Interoperable Platform for managing the building information modeling Library of Lombardy region*, Regione Lombardia, 2017-2019, member of the research team.

*LCA study of expanded clay products for obtaining the Environmental Product Declaration (EPD)*, Laterlite spa, 2018, scientific coordinator.

He writes books and papers on reviews and participate at international and national seminars and congresses about the topics of his research work. From 2010 to 2014 he's on the editors board of the review "Techne. Journal of Technology for Architecture and Environment". He's editor of the section "Details" of the review "Costruire in laterizio" since 1991 and of the section "Architecture" of the review "Costruzioni metalliche" since 1998.

## **BOOKS**

2013. Andrea Campioli, Monica Lavagna, *Tecniche e architettura*, De Agostini, Novara, ISBN 978-88-251-7370-3, pp. 440.

2009. Marisa Bertoldini, Andrea Campioli, Barbara Ferrari, Giorgio Grandi, Enrico Guastaroba, Monica Lavagna, Alessandra Zanelli, *Progettare oltre l'emergenza. Spazi e tecniche per l'abitare temporaneo*, Il Sole 24 Ore, Milano, ISBN 978-88-324-7404-6, pp. 160. Evaluation "excellent" (1/1) VQR ANVUR (National Agency for the Evaluation of Universities and Research Institutes).

1988. Andrea Campioli, *I presagi di un nuovo costruire. Il linguaggio delle tecniche esecutive nell'architettura della seconda età della macchina*, Franco Angeli, Milano, pp. 227.

1993. Andrea Campioli, *Il contesto del progetto. Il costruire contemporaneo tra sperimentalismo high-tech e diffusione delle tecnologie industriali*, Franco Angeli, Milano, pp. 256

## **EDITOR**

2009. Andrea Campioli, Monica Lavagna (editors), *Raccomandazione per la progettazione di edifici energeticamente efficienti. Prestazioni termiche e comportamento ambientale di soluzioni tecniche di involucro in laterizio finalizzate all'efficienza energetica degli edifici*, Edizioni LaterService, Roma, ISBN 978-88-8138-125-8, pp. 146.

2009. Andrea Campioli, Alessandra Zanelli, *Architettura tessile. Progettare e costruire membrane e scocche*, Il sole 24 Ore, Milano.

2009. Andrea Campioli, Marisa Bertoldini, *Cultura tecnologica e ambiente*, Cittàstudi De Agostini Scuola, Novara, 2009.

## **ARTICLES**

2015. Andrea Campioli, Michele Paleari, «The soil preservation and renewal. From the planning strategies to the management of the disposal process in the built environment», *Techne. Journal of*

*Technology for Architecture and Environment*, n. 10, pp. 232-239.

2015. Marco Migliore, Andrea Campioli, Monica Lavagna, Ilaria Oberti, Giancarlo Paganin, Cinzia Talamo, "Intersectorial reuse of waste and scraps for the production of building products: strategies and valorization of waste", *Environmental Engineering and Management Journal*, Vol.14, No. 7, July 2015, pp. 1675-1681.

2014. Andrea Campioli, Monica Lavagna, Marco Migliore, Ilaria Oberti, Giancarlo Paganin, Cinzia Talamo, "Ecoinnovazione. La valorizzazione di scarti e rifiuti industriali preconsumo. Le potenzialità per l'edilizia in una ricerca del Politecnico di Milano", *Modulo*, n. 391, set.-ott. 2014, pp. 474-481.

2013. Andrea Campioli, Monica Lavagna, "Environmental innovations in the construction sector and life cycle approach", *Techne. Journal of Technology for Architecture and Environment*, n. 5, ISSN online 2239-0243, ISSN print 2240-7391, pp. 66-73

2012. Andrea Campioli, Carol Monticelli, "Variabile tempo", *Costruire in laterizio*, vol. 148, p. 64-69.

2012. Andrea Campioli, Monica Lavagna, Andrea Masperi, Valerio Panella, "Le prestazioni di involucri realizzati con blocchi evoluti", *Costruire in laterizio*, n. 145, gen.-feb., ISSN 0394-1590, pp. 62-67.

2011. "Qualità dell'architettura: innovazione, ricerca tecnologica e progetto". *Techne. Journal of Technology for Architecture and Environment*, vol. 1, p. 62-69.

2011. Andrea Campioli, Monica Lavagna, "Misurare la sostenibilità: il laterizio", *Costruire in laterizio*, n. 143, set.-ott., ISSN 0394-1590, pp. 65-71.

2011. Andrea Campioli, Monica Lavagna, Michele Paleari, Davide Mondini, "Le prestazioni delle murature", *Costruire in laterizio*, n. 144, nov.-dic., ISSN 0394-1590, pp. 51-57.

2010. Andrea Campioli, Valeria Giurdanella, Monica Lavagna, "Energia per costruire, energia per abitare", *Costruire in laterizio*, n. 134, mar.-apr., ISSN 0394-1590, pp. 60-65.

2010. Andrea Campioli, Monica Lavagna, "Laterizio innovativo ad alte prestazioni termiche", *Costruire in laterizio*, n. 133, gen.-feb. 2010, pp. 56-59.

2010. Andrea Campioli, Monica Lavagna, "Criteri di ecologia e certificazione ambientale dei prodotti edilizi", *il Progetto Sostenibile*, n. 27, dic., ISSN 1974-3327, pp. 48-55.

2010. "Misurare la sostenibilità ambientale" *Costruzioni metalliche*, vol. 4, Anno LXII, lug.-ago., pp. 65-74.

2010. "Ecotowns: Energia, ambiente e paesaggio per nuovi modelli di sviluppo urbano", *Trasporti & Cultura*, Anno X, n. 26, pp 52-59.

#### PAPERS IN PROCEEDINGS

2014. Marco Migliore, Andrea Campioli, Monica Lavagna, Ilaria Oberti, Giancarlo Paganin, Cinzia Talamo, "The reuse of waste for the improvement of environmental profile of buildings products", *40th IAHS world congress on housing*, Funchal (Portogallo), 16-19 December 2014, 9 pp.

2014. Monica Lavagna, Andrea Campioli, "Sviluppi degli studi LCA in edilizia: potenzialità di diffusione e ampliamento degli indicatori ambientali e dei confini di sistema", in: Simona Scalbi, Arianna Dominici Loprieno (editors), *VIII Convegno della Rete Italiana LCA. I nuovi orizzonti dell'LCA: verso un approccio sistemico e integrato alla progettazione di prodotti, processi, servizi*, Università degli studi di Firenze, 19-20 June 2014, ENEA, ISBN 978-88-8286-306-7, pp. 123-129.

2014. Michele Paleari, Monica Lavagna, Andrea Campioli, Enrico De Angelis, "Valutazione LCA degli interventi per la conservazione e manutenzione delle superfici di facciata", in: Simona Scalbi, Arianna Dominici Loprieno (editors), *VIII Convegno della Rete Italiana LCA. I nuovi orizzonti dell'LCA: verso un approccio sistemico e integrato alla progettazione di prodotti, processi, servizi*, Università degli studi di Firenze, 19-20 June 2014, ENEA, ISBN 978-88-8286-306-7, pp. 101-108.

2013. Michele Paleari, Monica Lavagna, Andrea Campioli, "Life Cycle Assessment e Zero Energy Residential Buildings", in: Werner Lang (editor), *PLEA 2013 29th Conference, Sustainable Architecture for a Renewable Future. Proceedings*, Fraunhofer IRB Verlag, Munich, Germany 10-12 September 2013, ISBN 978-3-8167-9054-9, 6 pp.

2012. Michele Paleari, Monica Lavagna, Andrea Campioli, “Life cycle assessment of a zero energy residential building”, in: R. Amoeda, R. Mateus, L. Bragança, C. Pinheiro (editors), *BSA 2012. Proceedings of the 1st International Conference on Building Sustainability Assessment*, Porto, Portogallo, 23-25 May 2012, ISBN 978-9899567160, pp. 641-650.
2012. Michele Paleari, Monica Lavagna, A. Campioli, “Life cycle assessment and construction costs of a low energy residential building”, in: A. Strauss, D.M. Frangopol, K. Bergmeister (editors), *Life-Cycle and Sustainability of Civil Infrastructure Systems*, Vienna, Austria, 3-6 October 2012, ISBN 9780415621267, pp. 1650-1656.
2011. Michele Paleari, Andrea Campioli, Monica Lavagna, “Life Cycle Assessment of building structure”, in: L. Braganca e altri, a cura di, *Sustainability of Constructions. Towards a better built environment, Proceedings of the Final Conference*, 03-05 February 2011, Innsbruck.
2010. Michele Paleari, Andrea Campioli, Monica Lavagna, “Criticità nella valutazione Life Cycle Sustainability Assessment di Zero Energy Buildings”, in: Luciano Morselli (editor), *Ambiente – economia. Nel cuore delle azioni*, Proceedings of Ecomondo, Maggioli, Rimini, 2010, pp. 1177-1183. CD-Rom