

## Scientific and Teaching Curriculum Vitae



**Matteo Francesco Ruta**

MSc MEng, PhD

Associate Professor of Building Production at Politecnico di Milano (I)

### PERSONAL DETAILS

Full name: **Matteo Francesco Ruta**

Date of birth: **17<sup>th</sup> May 1973**

Nationality: **Italian (born in Milan, Italy)**

Current address: **via Bistolfi, 49 – 20134, Milano, Italy**

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Matteo F. Ruta (1973) received a MSc in Building Engineering with honours in 1999 and a PhD in Ingegneria Ergotecnica Edile (Building Engineering) in 2003, both from Politecnico di Milano. Assistant Professor of Building Production at Politecnico di Milano since 2005, Associate Professor of Building Production since 2014 always at Politecnico di Milano, in the field of technological innovation for the improvement of the energetic and the working quality.

He is active in research and teaching at the School of Architecture Urban Planning and Construction Engineering, where he serves also in management roles. He is also member of several commissions for the same School and the Department of Architecture, Built Environment and Construction Engineering (ABC).

From 2015, he's the head of the Master of Science in Architectural Engineering of the Politecnico di Milano.

He currently teaches "Building Elements Design", "Building Restoration Project" and "Management of Complex Projects" at the Milano Leonardo and Lecco campuses.

His research efforts are concentrated on the technological innovation of products – with a particular attention to the improvement of the operational and environmental quality of building components – and on the engineering of complex projects with three-dimensional, parametric design tools. More in detail, the research activity is articulated in the following fields:

- construction technologies for nearly zero-energy buildings;
- innovative building components and systems;
- use of innovative materials for the building envelope;
- theories of innovation in the construction sector;
- representation and construction techniques of complex shapes.

Moreover, he took part in the design of some experimental, low-energy buildings developed by Politecnico di Milano, including the "Copagri's Pavilion for Expo Milano 2015", the "San Giacomo Church in Ferrara", the Don Leandro Rossi community in Lodi, the BIRD public housing in Brescia and a public school in Milan, via Brivio.

Since 2016 he's the scientific editor of "Arketipo" international review, currently published by New Business Media, Milan, where he was scientific consultant from 2006.

## EDUCATION

### Politecnico di Milano, Italy

- 1999, 22nd December: he earns a Degree with honours in Building Engineering (Ingegneria Edile) from Politecnico di Milano (score: 100 out of 100 cum laude). Title of the thesis dissertation: "*BEIC – Biblioteca Europea di Informazione e Cultura, Milano*" – supervisor: PROF. ETTORE ZAMBELLI. The work, co-authored with Gabriele Masera, is about the integrated design of the new central library for the city of Milan, using dry-assembled, lightweight construction technologies.
- 2003, 24<sup>th</sup> February: he earns a Doctoral Degree in Building Engineering (INGEGNERIA ERGOTECNICA EDILE) – 15<sup>th</sup> cycle (November 1999 – November 2002) from Politecnico di Milano, DISET Department (now ABC Department). Title of the doctoral dissertation: "**Criteria e Metodi per l'innovazione tecnologica – Le teorie dell'innovazione nel settore delle costruzioni: come evolve la tecnologia edilizia**" (Criteria and methods for technological innovation – Theories of innovation in the construction sector: how building technology evolves) – supervisor: PROF. ETTORE ZAMBELLI. The work investigates the current processes of development of product and process innovation in the construction field, proposing new ones for the near future.

## CURRENT EMPLOYMENT

- November 2014 – present: Associate Professor in Building Production at Politecnico di Milano, Department of Architecture, Built Environment and Construction Engineering (ABC). The teaching and research activities focus on the innovation of construction technologies for operational and environmental quality in new construction and refurbishment, applying the results on prototypes and real buildings whenever possible.

## PRIOR EMPLOYMENT

- 2002 – 2005: Politecnico di Milano, School of Architectural Engineering  
Professor by contract
- 2002 – 2005: Politecnico di Milano, School of Architectural Engineering  
Educational Manager
- 2002 – 2004: AIACE srl  
Building Engineer
- March 2005 – November 2014: Assistant Professor in Building Production (PRODUZIONE EDILIZIA - Settore Scientifico Disciplinare ICAR/11 - Settore Concorsuale: Design e Progettazione Tecnologica dell'Architettura according to the Italian university system) at Politecnico di Milano, Department of Architecture, Built Environment and Construction Engineering (ABC).
- 2008, 1<sup>st</sup> March: he is confirmed in his tenure as Assistant Professor in Building Production at Politecnico di Milano, Department of Built Environment Science and Technology (BEST), now the Department of Architecture, Built Environment and Construction Engineering (ABC).

## PROFESSIONAL CERTIFICATION

Licensed Professional Civil and Building Engineer since 2001. He qualifies with a score of 100 out of 100 at the Professional Practice Exam.

## PROFESSIONAL MEMBERSHIP

Member of the Charter of Engineers of the Milan Province since June 2002.

## § SCIENTIFIC PUBLICATIONS (and also EVENTS, DESIGN PRODUCT and PROJECTS)

1. M. RUTA (with G. MASERA), "*BEIC – Biblioteca Europea di Informazione e Cultura, Milano*" Masters thesis dissertation in Building Engineering, Politecnico di Milano, Milan, 1999. Supervisor: Prof. ETTORE ZAMBELLI.
2. M. RUTA, "*Edilizia alberghiera*" (chapter 2) in "*Costruire sul costruito – Tecnologie leggere nel recupero edilizio*", M. IMPERADORI (ed.), Carocci Editore, Rome, Italy, May 2001, pp. 97-134 (38 pp.). ISBN: 8843018736

3. M. RUTA, "Edilizia per il terziario" (chapter 3) in "Costruire sul costruito – Tecnologie leggere nel recupero edilizio", M. IMPERADORI (ed.), Carocci Editore, Rome, Italy, May 2001, pp. 135-165 - (31 pp.). ISBN: 8843018736
4. M. RUTA (ed.), chapter: "Schede tecniche", in M. IMPERADORI, A. MONTANELLI, (eds.) "Insieme 2000 – Premio di studio Città di Lecco – Politecnico di Milano", Tipografia Urbana, Vaprio d'Adda (MI), Italy, March 2001 (20 pp.)
5. M. RUTA, "Make-up architettonic", in *Modulo* no. 273, M. IMPERADORI (ed.), BE-MA Editrice, Milan, Italy, July / August 2001, pp. 646-648. ISSN: 0390-1025
6. M. IMPERADORI, G. MASERA, M. RUTA (eds.) "Insieme 2001 – Premio di studio Città di Lecco Politecnico di Milano", Tipografia Urbana, Vaprio d'Adda (MI), Italy, March 2002
7. M. RUTA (ed.), chapter: "Schede tecniche", in M. IMPERADORI, G. MASERA, M. RUTA (eds.) "Insieme 2001 – Premio di studio Città di Lecco – Politecnico di Milano IV edizione", Tipografia Urbana, Vaprio d'Adda (MI), Italy, March 2002 (21 pp.)
8. M. RUTA, "Ingegneria e architettura...insieme 2001", in *FRAMES* no. 97, Gruppo Editoriale Faenza Editrice, Faenza (RA), Italy, April / May 2002, pp. 58-59. ISSN: 1123-8143
9. M. RUTA, "Recensioni: La presenza dell'acciaio nelle costruzioni in zona sismica", in *COSTRUZIONI METALLICHE*, year LIV no. 3, ACAI Associazione fra i Costruttori in Acciaio Italiani, Milan, Italy, May / June 2002, p. 71. ISSN: 0010-9673
10. M. RUTA, "Premio di studio Città di Lecco – Politecnico di Milano. Insieme 2002 – 4° Edizione", in *FRAMES* no. 98, Gruppo Editoriale Faenza Editrice, Faenza (RA), Italy, June / July 2002, pp.60/61. ISSN: 1123-8143
11. M. RUTA, "Nasce la Biocasa", in *Ambiente e Sviluppo* no. 3/2002, IPASERVIZI Editrice, Milan, Italy, May / June, 2002, pp. 50-58. ISSN: 1590-1254
12. M. RUTA, "Un ponte disegnato nel paesaggio" in *Progetto Pubblico* no. 6, BE-MA Editrice, Milan, Italy, August 2002 (4 pp.)
13. M. RUTA, "Criteri e Metodi per l'innovazione tecnologica – Le teorie dell'innovazione nel settore delle costruzioni: come evolve la tecnologia edilizia", Doctoral dissertation presented in Milan on 24<sup>th</sup> February 2003. Doctoral programme in Building Engineering, 15<sup>th</sup> cycle (November 1999 – November 2002), Politecnico di Milano, DISET Department (now ABC Department). Supervisor: Prof. ETTORE ZAMBELLI (270 pp.)
14. M. RUTA, "Premio Lecco 2002 Architetture e Tecnologie Innovative", in *FRAMES* no. 102, Gruppo Editoriale Faenza Editrice, Faenza, Italy, February / March 2003, pp.58-59. ISSN: 1123-8143
15. M. IMPERADORI, G. MASERA, M. RUTA (eds.) "Insieme 2002 – Premio di studio Città di Lecco Politecnico di Milano", Tipografia Urbana, Vaprio d'Adda (MI), Italy, March 2003
16. M. RUTA (ed.): chapter "Schede tecniche", in M. IMPERADORI, G. MASERA, M. RUTA (eds.) "Insieme 2002 – Premio di studio Città di Lecco – Politecnico di Milano IV edizione", Tipografia Urbana, Vaprio d'Adda (MI), Italy, March 2003 (21 pp.)
17. M. RUTA, "Nuovo look con pelle di qualità", in *FRAMES* no. 103, Gruppo Editoriale Faenza Editrice, Faenza, Italy, April / May 2003, pp.50-55. ISSN: 1123-8143
18. M. RUTA, "Olimpiadi: concorsi e progetti" in *Progetto Pubblico* no. 9, BE-MA Editrice, Milan, Italy, May 2003, pp.16-17
19. M. RUTA, "Gioco verde" in *Progetto Pubblico* no. 9, BE-MA Editrice, Milan, Italy, May 2003, pp.22-25
20. M. RUTA, "Architettura Industrializzata e colore – colore nella prefabbricazione – Due stand dimostrativi al SAIE di Bologna" in *COLORE* no. 42, Istituto italiano del colore, Milan, Italy, July / December 2003, pp.32-35. ISSN: 1590-3079
21. M. RUTA (with G. MASERA), "Università & progetto", in *Modulo*, no. 296, BE-MA Editrice, Milan, Italy, November 2003, pp. 1042-1044. ISSN: 0390-1025
22. M. RUTA, (with G. IANACCONE), "An International Student Competition for Sustainable Architecture - The "Compasso Volante-Città di Lecco" Prize promoted by Gruppo Insieme: a cooperation project among international universities" presentation delivered at the International Conference "Visions of Possible Worlds. Scenarios and proposals for sustainability. A new social role for designers and design schools" organised by the School of Design of Politecnico di Milano and by the Triennale di Milano, 28<sup>th</sup> - 29<sup>th</sup> November 2003, Milan, Italy

23. M. RUTA (with E. ZAMBELLI, D. NEZOSI, G. BUFFONI), *"Edifici Energeticamente Efficienti: una sperimentazione a Lodi"* in *Proceedings of the 44<sup>th</sup> AICARR Conference "Impianti, Edifici, Città – integrazioni e nuove visioni di progetto e di gestione"*, AICARR, Milan, Italy, March 2004, pp. 1057-1071.
24. M. RUTA (ed.): chapter *"Schede di prodotto"*, in *Insieme 2003 – Premio di studio Città di Lecco – Politecnico di Milano V edizione*, Tipografia Urbana, Vaprio d'Adda (MI), Italy, March 2004 (16 pp.)
25. M. RUTA, *"Questione di personalità"*, in *COSTRUIRE* no. 251, Costruire Edizioni SpA, Milan, Italy, April 2004, pp. 42-45). ISSN: 1121-6336
26. M. RUTA (with G. MASERA, D. NEZOSI), chapters: *"Repertorio delle strategie di intervento di ristrutturazione e di trasformazione"* (chapter 3) and *"Studio di casi di intervento trasformativo su quartieri residenziali"* (chapter 4) – contribution in the book *"Ristrutturazione e trasformazione del costruito"*, E. Zambelli (ed.), Il Sole 24 Ore, Milan, Italy, May 2004, pp. 59-330 (271 pp.). ISBN: 978-88324-5268-6
27. M. RUTA, *"Zaha Hadid – Pritzker Prize 2004"*, in *Notiziario Ordine Ingegneri Provincia di Como*, no. 80, Ordine Ingegneri Provincia di Como, Como, Italy, August / September 2004 (8 pp.)
28. M. RUTA *"Studio del sistema di facciata ventilata "isoparete": innovazione incrementale di prodotto, ottenuta partendo da un elemento esistente utilizzato in ambito differente - un caso di collaborazione tra università e industria"* *Proceedings of the IV<sup>th</sup> Conference ISTEА – Società Italiana di Scienze, Tecnologia e Ingegneria dell'Architettura "Innovazione tecnologica in edilizia: modelli e strategie di intervento"*, Barletta, Italy, 2006. ISBN: 8888758259
29. M. RUTA *"Quando il passato si accosta al presente"* – Refurbishment of the Santa Maria della Scala complex in Siena by Guido Canali, in *Il Sole 24Ore-ArKetipo*, no. 1, *"Recupero e Innovazione"*, Il Sole 24Ore, Milan, Italy, March 2006, pp. 76-89. ISSN: 1828-4450
30. M. RUTA, *"Tutta la forza sul perimetro"* – Olympic Palasport "Palahockey" in Turin by Arata Isozaki and ARUP Italia, in *Il Sole 24Ore-ArKetipo*, no. 6, *"Strutture"*, Il Sole 24Ore, Milan, Italy, September 2006, pp. 54-67. ISSN: 1828-4450
31. M. RUTA, *"Naturalità e tecnica per la democrazia"* – Complex of Scottish Parliament in Edinburgh by Enric Miralles, Benedetta Tagliabue and RMJM, in *Il Sole 24Ore-ArKetipo*, no. 7, *"Progettare con la luce"*, Il Sole 24Ore, Milan, Italy, October 2006, pp. 80-95. ISSN: 1828-4450
32. M. RUTA, *"Un canyon diafano"* – Italtromo & Libardi Associati Headquarter in Rome – by Labics, in *Il Sole 24Ore-ArKetipo*, no. 11, *"Involucri trasparenti"*, Il Sole 24Ore, Milan, Italy, March 2007, pp. 86-95. ISSN: 1828-4450
33. M. RUTA, *"Il lavoro si fa paesaggio"* – SMEG Headquarter in San Girolamo di Guastalla – by Guido Canali, in *Il Sole 24Ore-ArKetipo*, no. 12, *"Uffici"*, Il Sole 24Ore, Milan, Italy, April 2007, pp. 52-65. ISSN: 1828-4450
34. M. RUTA, *"Il cielo sopra Barcellona"* – Gas Natural Headquarter in Barcelona – by Miralles Tagliabue EMBT, in *Il Sole 24Ore-ArKetipo*, no. 13, *"Edifici a torre"*, Il Sole 24Ore, Milan, Italy, May 2007, pp. 82-93. ISSN: 1828-4450
35. M. RUTA, *"Relazioni curvilinee"* – Public Library in Palafoles by Miralles Tagliabue EMBT, in *Il Sole 24Ore-ArKetipo*, no. 18, *"Paesaggio costruito"*, Il Sole 24Ore, Milan, Italy, October 2007, pp. 62-73. ISSN: 1828-4450
36. M. RUTA, chapter *"Sistemi costruttivi in muratura e misti"* in *"Case a basso consumo energetico"*, S. Croce, T. Poli (eds.), Il Sole 24 Ore, Milan, Italy, 2007, pp. 372-381. ISBN: 978-88324-6588-4
37. M. RUTA, *"Jam Session"* – Hotel Puerta America in Madrid, in *"Il Sole 24Ore-ArKetipo"*, no. 22, *"Special residences"*, Il Sole 24Ore, Milan, Italy, April 2008, pp. 90-105. ISSN: 1828-4450
38. M. RUTA, (with E. ZAMBELLI, M. BRASCA), *"Experimental, low-energy house for children in Lodi, Italy: an example for Mediterranean climates"* in *Proceedings of the 12<sup>th</sup> Conference on Passive Houses*, 11-12 April 2008, Nurnberg, Germany. ISBN: 978-3-00-024073-7
39. M. RUTA, *"Rosa d'acciaio"* – ArcelorMittal Centennial Pavilion in Esch-sur-Alzette by Miralles Tagliabue EMBT, in *"Il Sole 24Ore-ArKetipo"*, no. 27, *"Low Cost"*, Il Sole 24Ore, Milan, Italy, October 2008, pp. 80-93. ISSN: 1828-4450

40. M. RUTA, "*Hafencity terraces*" in Hamburg by Miralles Tagliabue EMBT, in the supplement "*Urban Landscapes*" to "Il Sole 24Ore-ArKetipo", no. 30, Il Sole 24Ore, Milan, Italy, January/February 2009, pp. 48-53. ISSN: 1828-4450
41. M. RUTA, "*Montagna's town square*" in Valtellina, in the supplement "*Urban Landscape*" to "Il Sole 24Ore-ArKetipo", n. 30, "Il Sole 24Ore-ArKetipo", no. 30, Il Sole 24Ore, Milan, Italy, January/February 2009, pp. 40-43. ISSN: 1828-4450
42. M. RUTA, "*John Lewis Centre*" in Leicester by Foreign Office Architects, in "Il Sole 24Ore-ArKetipo", no. 31, "*Structures*", Il Sole 24Ore, Milan, Italy, March 2009, pp. 72-85. ISSN: 1828-4450
43. M. RUTA, "*New IUAV premises in Venice*" by Miralles Tagliabue EMBT, in "Il Sole 24Ore-ArKetipo", no. 34, "*Waterfront*", Il Sole 24Ore, Milan, Italy, June 2009, pp. 98-113. ISSN: 1828-4450
44. M. RUTA, "*Rassegna Real Estate*" – in "Il Sole 24Ore-ArKetipo", no. 34, "*Waterfront*", Il Sole 24Ore, Milan, Italy, June 2009, pp. 33-38. ISSN: 1828-4450
45. M. RUTA, "*IMO - Istituto de Microcirurgia Ocular*" in Barcelona by Josep Llinàs in "Il Sole 24Ore-ArKetipo", no. 38, "*Roofs*", Il Sole 24Ore, Milan, Italy, November 2009, pp. 56-69. ISSN: 1828-4450
46. M. RUTA, "*Le tendenze dell'involucro - linee emergenti nella progettazione degli involucri*" – in the supplemente "*FRAMES ALBUM 2009-2010*" to "FRAMES", no. 143, Il Sole 24Ore, Milan, Italy, December 2009, pp. 2-5. ISSN: 1123-8143
47. G. MASERA, M. RUTA (eds.), "*Sostenibilità e innovazione in edilizia - Atti del 7° convegno nazionale ISTeA 2008*". Lerici, 10-12 July 2008 - Aracne editrice S.r.l., Rome, Italy, 2009. ISBN: 978-88-548-3039-4
48. M. RUTA, chapter "*B1. Sede della Fondazione Don Leandro Rossi a Lodi: un centro per minori con caratteristiche di efficienza energetica e innovazione tecnologica*" in "*Sostenibilità e innovazione in edilizia - Atti del 7° convegno nazionale ISTeA 2008*". Lerici, 10-12 July 2008, G. MASERA, M. RUTA (eds.), Aracne editrice S.r.l., Rome, Italy 2009. ISBN: 978-88-548-3039-4
49. M. RUTA, (with E. ZAMBELLI) "*House for a charity in Lodi: a model of energy-efficient building in the climate of Pianura Padana*" in Proceedings of the "8<sup>th</sup> Workshop of the CIB W108 Climate Change and Built Environment", Milan, 26 March 2008, Maggioli Editore, Rimini, Italy, pp. 23-27. ISBN: 978-88387-4366-5
50. M. RUTA, "*Dee And Charles Wyly Theatre*" in Dallas by REX/OMA in "Il Sole 24Ore-ArKetipo", no. 41, "*Dry Construction*", Il Sole 24Ore, Milan, Italy, March 2010, pp. 98-113. ISSN: 1828-4450
51. M. RUTA, "*MAXXI: National Museum for the XXI Century Arts*" in Rome by Zaha Hadid Architects in "Il Sole 24Ore-ArKetipo", no. 44, "*Concrete*", Il Sole 24Ore, Milan, Italy, June 2010, pp. 88-103. ISSN: 1828-4450
52. M. RUTA, "*Spanish Pavilion*" in Shanghai by Miralles Tagliabue EMBT in "Il Sole 24Ore-ArKetipo", no. 45, "*EXPO 2010*", Il Sole 24Ore, Milan, Italy, July / August 2010, pp. 90-103. ISSN: 1828-4450
53. M. RUTA, (with G. MASERA), chapter "*Politecnico di Milano, Facoltà di Ingegneria Edile-Architettura e Polo regionale di Lecco*" in "*culture\_nature\_green ethics – habitat – environment*", A. COPPA, F. D'AMICO (eds.), SKIRA Editore S.p.A, Geneva-Milan, Swiss-Italy, August 2010, pp. 106-115. ISBN: 978-88572-0773-5
54. M. RUTA, "*Primary School in Ponzano Veneto*" by C+S Associati, in the supplement, "*Solar screens*" to "Il Sole 24Ore-ArKetipo", no. 46, Il Sole 24Ore, Milan, Italy, September 2010, pp. 44-47. ISSN: 1828-4450
55. M. RUTA, "*Rioja Technology Transfer Centre*" in Logroño by FOA: Foreign Office Architects, in the supplement "*Solar screens*" to "Il Sole 24Ore-ArKetipo", no. 46, Il Sole 24Ore, Milan, Italy, September, 2010, pp. 56-59. ISSN: 1828-4450
56. M. RUTA, "*I dettagli complessi nelle opere di EMBT*" – in "AREA", no. 113 "*Benedetta Tagliabue EMBT*", Il Sole 24Ore, Milan, Italy, November / December 2010, pp. 146-149. ISSN: 0394-0055
57. M. RUTA, "*Vakko Fashion and Power Media Center*" in Istanbul, Turkey, by REX, in "Il Sole 24Ore-ArKetipo", no. 50 "*Structures*", Il Sole 24Ore, Milan, Italy, January / February 2011, pp. 52-65. ISSN: 1828-4450
58. M. RUTA, "*Flowing gardens, horticultural Expo 2011*" in Xi'an, China, by Plasma Studio, in "Il Sole 24Ore-ArKetipo", no. 54 "*Green roofs*", Il Sole 24Ore, Milan, Italy, June 2011, pp. 110-123. ISSN: 1828-4450

59. M. RUTA, "Complex details in the works of EMBT – Analyzing building technologies through 3D drawings" – in "Benedetta Tagliabue EMBT - AREA China 100+12", M. CASAMONTI (ed.), IISole24Ore, Milan, Italy, June 2011, pp. 168-171. ISBN: 978-75388-6560-8
60. M. RUTA, "3D Representation of Construction Technologies for Architecture with a Complex Geometry" in Proceedings of the "10<sup>th</sup> International detail design in architecture conference ddi10", 27-28 October 2011, Istanbul, Turkey, pp. 263-272. ISBN: 978-97556-1411-3
61. M. RUTA, (with L. MALIGHETTI, G. MASERA, S. RAVASIO, G. TURCHINI), "The Communication of Technological Design" in Proceedings of the "10<sup>th</sup> International detail design in architecture conference ddi10", 27-28 October 2011, Istanbul, Turkey, pp. 253-262. ISBN: 978-97556-1411-3
62. M. RUTA, "4 Sports Halls" in Medellín, Colombia, by Giancarlo Mazzanti & Felipe Mesa, Plan:b, in "Il Sole 24Ore-ArKetipo", no. 58 "Metals", Il Sole 24Ore, Milan, Italy, November 2011, pp. 100-111. ISSN: 1828-4450
63. M. RUTA, "Guangzhou Opera House" in Guangzhou, China, by Zaha Hadid Architects, in "Il Sole 24Ore-ArKetipo", no. 59 "Culture", Il Sole 24Ore, Milan, Italy, December 2011, pp. 76-89. ISSN: 1828-4450
64. M. RUTA, "Porta del Parco in Bagnoli Futura" in Naples, Italy, by Silvio D'Ascia, in the supplement: "Envelope" to "Il Sole 24Ore-ArKetipo", Il Sole 24Ore, Milan, Italy, no. 62, April 2012, pp. 30-35. ISSN: 1828-4450
65. M. RUTA, "HBB - Harbour Brain Building in Venezia" by C+S Associati, in the supplement, "Envelope" to "Il Sole 24Ore-ArKetipo", no. 62, Il Sole 24Ore, Milan, Italy, April 2012, pp. 36-41. ISSN: 1828-4450
66. M. RUTA, M. M. SESANA, F. SARTI, "Technological and Functional Optimization Of A Modular Construction System for Flexible And Adaptable Multi-Family Housing" in Proceedings of the "XXXVIII IAHS World Congress - Visions for the Future of Housing: Mega Cities" 16-19 April 2012 in Istanbul, Turkey, pp. 1000-1006. ISBN: 978-97556-1417-5
67. M. RUTA, "Evelyn Grace Academy" in London, UK, by Zaha Hadid Architects, in "Il Sole 24Ore-ArKetipo", no. 64 "London", Il Sole 24Ore, Milan, June, 2012, pp. 60-73. ISSN: 1828-4450
68. M. RUTA, "Basketball Arena" in London, UK, by Wilkinson Eyre Architects, in the supplement "London 2012 Olympics" to "Il Sole 24Ore-ArKetipo", no. 64, Il Sole 24Ore, Milan, Italy, June 2012, pp. 26-31. ISSN: 1828-4450
69. M. RUTA, "Shooting Ranges" in London, UK, by magma architects, in the supplement "London 2012 Olympics" to "Il Sole 24Ore-ArKetipo", no. 64, Il Sole 24Ore, Milan, Italy, June 2012, pp. 32-37. ISSN: 1828-4450
70. M. RUTA, "Aquatic Centre" in London, UK, by Zaha Hadid Architects, in the supplement "London 2012 Olympics" to "Il Sole 24Ore-ArKetipo", no. 64, Il Sole 24Ore, Milan, Italy, June 2012, pp. 50-55. ISSN: 1828-4450
71. M. RUTA, "Milstein Hall" in Ithaca, USA, by OMA in "Il Sole 24Ore-ArKetipo", no. 67, "Reurbishment", Il Sole 24Ore, Milan, Italy, October 2012, pp. 68-81. ISSN: 1828-4450
72. M. RUTA, "Innovation and ideas in the 18 solar houses" – in the supplement "Solar Decathlon 2012" to "Il Sole 24Ore-ArKetipo", no. 67, Il Sole 24Ore, Milan, Italy, October 2012, pp. 6-8. ISSN: 1828-4450
73. M. RUTA, "(e)co" in Madrid, Spain, by Universitat Politècnica de Catalunya – Escuela Técnica Superior de Arquitectura del Vallés (ETSAV), in the supplement "Solar Decathlon 2012" to "Il Sole 24Ore-ArKetipo", no. 67, Il Sole 24Ore, Milan, Italy, October 2012, pp. 40-45. ISSN: 1828-4450
74. M. RUTA (with M. GRECCHI, G. MASERA, L. PAGLIANO, A. DAMA, P. ZANGHERI), chapter: "EdZEn: Experimental nearly zero-energy office building in Mediterranean climate" in "The Missing Brick: Towards a 21st-century Built Environment Industry", in G. ALAIMO, A. CARBONARI, A. CIRIBINI, B. DANIELIOTTI, G. DELL'OSSO, M. A. ESPOSITO (eds.), Maggioli Editore, Santarcangelo di Romagna, Italy, October 2012, pp. 110-129. ISBN: 978-88387-6164-5
75. M. RUTA (with M. IMPERADORI, G. R. DELL'OSSO, M. A. ESPOSITO, G. MASERA, A. PIERUCCI), chapter: "Dal progetto al prodotto di qualità per l'industria delle costruzioni" in "The Missing Brick: Towards a 21st-century Built Environment Industry", in G. ALAIMO, A. CARBONARI, A. CIRIBINI, B. DANIELIOTTI, G. DELL'OSSO, M. A. ESPOSITO (eds.), Maggioli Editore, Santarcangelo di Romagna, Italy, October 2012, pp. 651-669. ISBN: 978-88387-6164-5

76. M. RUTA, "*Music School with auditorium*" in Hamburg, Germany, by Miralles Tagliabue EMBT in "Il Sole 24Ore-ArKetipo", no. 68, "Envelope", Il Sole 24Ore, Milan, Italy, November 2012, pp. 90-103. ISSN: 1828-4450
77. M. RUTA, chapter: "*Nastri metallici in facciata – Pierres Vives, Montpellier*" in "*Transparency*", in S. CROCE, T. POLI (eds.), Il Sole 24 Ore, Milan, Italy, March 2013, pp. 310-323 - (14 pp.). ISBN: 978-88324-8188-4
78. M. RUTA, chapter: "*Rombi di vetro termoformati – Ospedale Rey Juan Carlos, Móstoles*" in "*Transparency*", in S. CROCE, T. POLI (eds.), Il Sole 24 Ore, Milan, Italy, March 2013, pp. 324-335 - (12 pp.). ISBN: 978-88324-8188-4
79. M. RUTA, "*Psychiatric Hospital*" in Helsingør, Denmark, by PLOT=BIG+JDS, in the supplement "*healthcare*" to "Il Sole 24Ore-ArKetipo", no. 71, Il Sole 24Ore, Milan, Italy, March 2013, pp. 10-15. ISSN: 1828-4450
80. M. RUTA, "*New Communities for Mental Care*" in Brescia, Italy, by AIACE, in the supplement "*healthcare*" to "Il Sole 24Ore-ArKetipo", no. 71, Il Sole 24Ore, Milan, Italy, March 2013, pp. 16-21. ISSN: 1828-4450
81. M. RUTA, "*3x1: Municipal Healthcare Centres*" in Madrid, Spain, by estudio.entresitio, in the supplement "*healthcare*" to "Il Sole 24Ore-ArKetipo", no. 71, Il Sole 24Ore, Milan, Italy, March 2013, pp. 40-47. ISSN: 1828-4450
82. M. RUTA, (with M. M. SESANA, F. SARTI), "*Technological and Functional Optimization Of A Modular Construction System for Flexible And Adaptable Multi-Family Housing*" in "*International Journal for Housing Science and Its Applications*", Volume 37, Issue 1, International Association for Housing Science, Coral Gables, Florida, USA, 2013, pp. 43-52 (10 pp.). ISSN: 0146-6518
83. M. RUTA, "*Pierresvives*" in Montpellier, France, by Zaha Hadid Architects in "Il Sole 24Ore-ArKetipo", no. 74, "*Innovation*", Il Sole 24Ore, Milan, Italy, June 2013, pp. 48-61. ISSN: 1828-4450
84. M. RUTA, (with N. VILLA, C. F. BONACINA, M. GRECCHI, G. IANACCONI, L. MALIGHETTI, E. PIZZI), "*Innovative design tools for sustainable refurbishment of large building complexes*" in Proceedings of the "*CESB13 - Central Europe towards Sustainable Building - sustainable building and refurbishment for next generation*", P. HÁJEK, J. TYWONIAK, A. LUPÍŠEK, J. RŮŽIČKA, K. SOJKOVÁ (eds.), 26–28 June 2013, Prague, Czech Republic, pp. 187-190. ISBN 978-80-247-5015-6
85. M. RUTA, "*Holmenkollen Ski Jump*" in Oslo, Norway, by JDS Architects in "Il Sole 24Ore-ArKetipo", no. 75, "*Sports*", Il Sole 24Ore, Milan, Italy, July / August 2013, pp. 68-81. ISSN: 1828-4450
86. M. RUTA, chapter: "*The civil and balanced importance of a sign*" in "*Architetture per la Sanità: costruire S/R – STR/EN Healthcare Architecture*", Il Sole 24 Ore, Milan, Italy, August 2013, pp. 33-38. ISBN: 978-88981-5704-4
87. M. RUTA, "*Barajas Social Housing Block*" in Madrid, Spain, by Miralles Tagliabue EMBT in "Il Sole 24Ore-ArKetipo", no. 76, "*Housing*", Il Sole 24Ore, Milan, Italy, September 2013, pp. 70-83. ISSN: 1828-4450
88. M. RUTA, (with L. E. MALIGHETTI, G. IANACCONI, C. F. BONACINA, N. VILLA, B. BERTANI, G. TURCHINI, E. PIZZI, M. GRECCHI), "*Evaluation of options for building refurbishment: an innovative design tool supporting decision-makers in Italy*" in Proceedings of the "39<sup>th</sup> IAHS World Congress – Changing Needs, Adaptive Buildings, Smart Cities" – Volume 1, O. URAL, E. PIZZI, S. CROCE (eds.), 17–20 September 2013, Milan, Italy, pp. 971-976. ISBN: 9788864930138
89. M. RUTA, "*MACRO – Museo di Arte Contemporanea*" in Rome, Italy, by Studio Odile Decq in "Il Sole 24Ore-ArKetipo", no. 77, "*Refurbishment*", Il Sole 24Ore, Milan, Italy, October 2013, pp. 76-89. ISSN: 1828-4450
90. M. RUTA, "*Cantiere: Stazione Marittima, Molo Manfred*" in Salerno, Italy, by Zaha Hadid Architects in "Il Sole 24Ore-ArKetipo", no. 79, "*Infrastructures*", Il Sole 24Ore, Milan, Italy, December 2013, pp. 31-37. ISSN: 1828-4450
91. M. RUTA, "*L'Oréal Academy*" in Barcelona, Spain, by Miralles Tagliabue EMBT in "Il Sole 24Ore-ArKetipo", no. 80, "*Retail*", Il Sole 24Ore, Milan, Italy, January / February 2014, pp. 50-63. ISSN: 1828-4450
92. M. RUTA, "*Théâtre de l'Archipel*" in Perpignan, France, by Ateliers Jean Nouvel & Métra+Associés in "ArKetipo", no. 82, "*Colour*", April 2014, New Business Media, Milan, Italy, pp. 36-51. ISSN: 1828-4450
93. M. RUTA, "*Danish National Maritime Museum*" in Helsingør, Denmark, by BIG: Bjarke Ingels Group in "ArKetipo", no. 84, "*Refurbishment*", June 2014, New Business Media, Milan, Italy, pp. 40-53. ISSN: 1828-4450

94. M. RUTA, (with A. DAMA, E. DE LENA, G. MASERA, L. PAGLIANO, P. ZANGHERI), *"Design and passive strategies optimization towards zero energy target: the case study of an experimental office building in Milan"* in Liora Malki-Epstein, Catalina Spataru, Ljiljana Marjanovic Halburd and Dejan Mumovic (eds.); 2014, "Proceedings of the 2014 Building Simulation and Optimization Conference"; 23-24 June 2014, UCL, London, UK (paper accepted with a double blind peer review process, in print after the conference dates).
95. M. RUTA, "Heydar Aliyev Center in Baku, Azerbaijan" – di Zaha Hadid Architects in "ArKetipo", n. 89 "Public Buildings", December 2014, New Business Media, Milan, Italy, pp. 40-55.
96. M. RUTA, "Phantom – Restaurant of the Opéra Garnier in Paris, France" – di Studio Odile Decq in "ArKetipo", n. 92, "Travelling", April 2015, New Business Media, Milan, Italy, pp. 76-89.
97. "Minamora bench", M. Ruta with B. Tagliabue; M. Fukuda; V. N. Noris, client: ITALCEMENTI, April 2015
98. "Copagri's Domes - EXPO 2015", M. Ruta with B. Tagliabue; M. Fukuda; V. N. Noris; E. Pizzi; F. Iorio; A. Laudini; G. Amaro; P. Ruttico; M. Croci; M. Peres; R. Gaffurini, client: EXPO Milano 2015, May 2015
99. M. RUTA, "United Arab Emirates Pavilion in Milan, Italy" – di Foster+Partners in "ArKetipo", n. 94, "EXPO Milan 2015 – Volume 1", June 2015, New Business Media, Milan, Italy, pp. 58-71.
100. M. RUTA, "Strong points of EXPO 2015 Masterplan", n. 94, "EXPO Milan 2015 – Volume 1", June 2015, New Business Media, Milan, Italy, pp. 28-35.
101. M. RUTA, "Citylife Residential Complex in Milan, Italy" – di Zaha Hadid Architects in "ArKetipo", n. 96, "Housing", September 2015, New Business Media, Milan, Italy, pp. 38-45+150.
102. M. RUTA, "Housing: types and building technologies" – in "ArKetipo", n. 96, "Housing", September 2015, New Business Media, Milan, Italy, pp. 26-27+149.
103. M. RUTA, "Variety: mono-materiality is not the enemy of creativity" – in "ArKetipo", n. 97, "Envelope", October 2015, New Business Media, Milan, Italy, pp. 28-29+149.
104. M. RUTA, "Gammel Hellerup High School in Hellerup, Denmark" – di BIG, Bjarke Ingels Group in "ArKetipo" n. 98, "Multifunctional", November 2015, New Business Media, Milan, Italy, pp. 26-33+148.
105. M. RUTA, "Many functions rolled into one can bring a variety of advantages" – in "ArKetipo", n. 98, "Multifunctional", November 2015, New Business Media, Milan, Italy, pp. 22-23+147.
106. M. RUTA (con P. FAVOLE), "Entrepôt Macdonald refurbishment in Paris, France" – di FAA-XDGA and OMA, in "ArKetipo" n. 99, "Refurbishment", January 2016, New Business Media, Milan, Italy, pp. 28-45+148-150.
107. M. RUTA, "Refurbishment stimulates talent" – in "ArKetipo", n. 99, "Refurbishment", January 2016, New Business Media, Milan, Italy, pp. 18-19+147.
108. SHORTLIST PROJECT (7 GROUPS SELECTED) in the "Competition for the Masterplan of Kodrina Complex in Pristina, Kosovo", M. Ruta with B. Tagliabue, V. N. Noris, N. Busto, G. Masera, BAC Engineering, B.Ramku, competition organized by the Municipality of Prishtina in cooperation with NTN Tregtia – February 2016.
109. M. RUTA, "Fondazione Prada, Milan - Italy (part 1)" by OMA – in "ArKetipo", n. 100, "Italia", March 2016, New Business Media, Milan, Italy, pp. 22-37+158-160.
110. M. RUTA (with P. FAVOLE), "100" – in "ArKetipo", n. 100, "Italia", March 2016, New Business Media, Milan, Italy, pp. 18-19+158.
111. M. RUTA, "Hotels today: between technology and "landscapes"" – in "ArKetipo", n. 101, "Hospitality", April 2016, New Business Media, Milan, Italy, pp. 24-25+147-148.
112. M. RUTA, "The façade facing the sky" – in "ArKetipo", n. 102, "Roofs", May 2016, New Business Media, Milan, Italy, pp. 26-27+147.

113. M. RUTA, "Ancient, but not too much" – in "ArKetipo", n. 103, "Metals", June 2016, New Business Media, Milan, Italy, pp. 20-21+146.
114. M. RUTA, "Maritime Terminal in Salerno" by ZHA - Zaha Hadid Architects – in "ArKetipo", n. 104, "Zaha Hadid", July 2016, New Business Media, Milan, Italy, pp. 50-63+151-152.
115. M. RUTA, "A tribute" – in "ArKetipo", n. 104, "Zaha Hadid", July 2016, New Business Media, Milan, Italy, pp. 4-5+144-145.
116. M. RUTA, special monographic issue of "ArKetipo" curated by, n. 104, "Zaha Hadid", July 2016, New Business Media, Milan, Italy, 160 pages.
117. M. RUTA, "A choice always present" – in "ArKetipo", n. 105, "Natural materials", September 2016, New Business Media, Milan, Italy, pp. 28-29+149.
118. M. RUTA, "Freedom for colour!" – in "ArKetipo", n. 106, "Colour", October 2016, New Business Media, Milan, Italy, pp. 26-27+149.
119. M. RUTA, "Refurbishment of Garcimuñoz Castle in Cuenca" by Izaskun Chinchilla – in "ArKetipo", n. 106, "Colour", October 2016, New Business Media, Milan, Italy, pp. 86-99+153-154.
120. Director, with Stefano Boeri, of Mi/Arch 2016 International Festival of Architecture, con Stefano Boeri, 12-15 October 2016.
121. M. RUTA, "The strength of the project" – in "ArKetipo", n. 107, "Energy", November 2016, New Business Media, Milan, Italy, pp. 22-23+149.
122. THIRD PRIZE in the international competition for the "New Central Park of Prato" in Prato, M. Ruta with B. Tagliabue, S. Geenen, N. Busto, G. Masera, with international jury: Bernard Tschumi, Michelle Provoost, Sébastien Marot, Roberto Zancan, Francesco Procopio, first phase (selected for the second phase, 10 groups selected of 230 proposals presented), October 2016. <http://www.ilparcocentralediprato.it/i-10-progetti-finalisti/>
123. M. RUTA, "Defence is civil" – in "ABITARE", n. 561, "Italia fragile", January 2017, RCS Mediagroup S.p.A., Milan, Italy, pp. 30-37.
124. M. RUTA, "Innovating... lightly" – in "ArKetipo", n. 108, "Dry construction", January 2017, New Business Media, Milan, Italy, pp. 18-19+147-148.
125. M. RUTA, "The infinite oscillation between being and not-being" – in "ArKetipo", n. 109, "Transparency", March 2017, New Business Media, Milan, Italy, pp. 20-21+149.
126. M. RUTA, "New Headquarters of BNL-BNP Paribas in Rome" by 5+1AA – in "ArKetipo", n. 109, "Transparency", March 2017, New Business Media, Milan, Italy, pp. 84-97+153-154.
127. M. RUTA, "Flying Structures" – in "ArKetipo", n. 110, "Cantilivers", April 2017, New Business Media, Milan, Italy, pp. 22-23+145-146.
128. M. RUTA, "Machines for Learning" – in "ArKetipo", n. 111, "Culture", May 2017, New Business Media, Milan, Italy, pp. 18-19+149.
129. M. RUTA, "MAAT Museum of Art, Architecture and Technology in Lisbon" by Amanda Levet Architects – in "ArKetipo", n. 111, "Culture", May 2017, New Business Media, Milan, Italy, pp. 36-43+150-151.
130. M. RUTA, "La placida "ecocittà" a misura d'uomo" – in "Copenaghen", a cura di Alessandra Coppa e Anna Mainoli, May 2017, RCS Mediagroup S.p.A., Milan, Italy, p. 7.
131. Scientific Coordinator of the Milano Arch Week 2017, which Stefano Boeri was Artistic Director, 12-18 June 2017.
132. M. RUTA, "Discovery places: interactive and exciting worlds" – in "ArKetipo", n. 112, "Education", June 2017, New Business Media, Milan, Italy, pp. 20-21+150.
133. M. RUTA, "Vital built resources for every country" – in "ArKetipo", n. 113, "Infrastructure", July 2017, New Business Media, Milan, Italy, pp. 14-15+136-137.
134. M. RUTA, "Traditional... and very contemporary" – in "ArKetipo", n. 114, "Wood", September 2017, New Business Media, Milan, Italy, pp. 24-25+147-148.

135. M. RUTA, "Norman Foster Foundation" by Design Studio of the Norman Foster Foundation – in "ArKetipo", n. 115, "Refurbishment", October 2017, New Business Media, Milan, Italy, pp. 16-21+146.
136. M. RUTA, "The charm of the second (or third, fourth ...) life"– in "ArKetipo", n. 115, "Refurbishment", October 2017, New Business Media, Milan, Italy, pp. 24-25+147-148.
137. M. RUTA, "Many dangers, many integrated solutions"– in "ArKetipo", n. 116 "Safety", November 2017, New Business Media, Milan, Italy, pp. 10-11+145-146.
138. M. RUTA, essay: "*Within a vital architecture*" in "*Miralles Tagliabue EMBT – Inspiration and Process in Architecture*", Moleskine SpA, Milan, Italy, April 2017, pp. 8-12, ISBN 978-88-6613-160-1
139. M. RUTA, "Possible integration"– in "ArKetipo", n. 117 "Architecture and services", January 2017, New Business Media, Milan, Italy, pp. 12-13+145-146.
140. M. RUTA, "KAPSARC - King Abdullah Petroleum Studies & Research Centre" by Zaha Hadid Architects "– in "ArKetipo", n. 117 "Architecture and services", January 2017, New Business Media, Milan, Italy, pp. 16-25+146-148.

## § TEACHING ACTIVITY

### MAIN COURSES

2002/2003

- Contract Professor of "*Building Components Design Lab (Laboratorio di Progettazione degli Elementi Costruttivi)*" (3 ECTS credits) at the School of Architectural Engineering of Politecnico di Milano, in the Master of Science of "Building Engineering-Architecture (Ingegneria Edile-Architettura)" activated at Polo Regionale di Lecco.

2003/2004

- Contract Professor of "*Building Elements Design Lab*" (3 ECTS credits) at School of Architectural Engineering of Politecnico di Milano, in the Master of Science of "Building Engineering-Architecture" activated at Polo Regionale di Lecco.
- Contract professor of "*Architectural Technology (Architettura Tecnica)*" (5 ECTS credits) at the School of Architectural Engineering of Politecnico di Milano, in the Bachelor of "Construction (Edilizia)" activated at Polo Regionale di Lecco.

2004/2005

- Contract Professor of "*Building Elements Design Lab*" (3 ECTS credits) at School of Architectural Engineering of Politecnico di Milano, in the Master of Science of "Building Engineering-Architecture" activated at Polo Regionale di Lecco.
- Teacher of "*Architectural Technology*" (5 ECTS credits) at School of Architectural Engineering of Politecnico di Milano, in the Bachelor of "Construction" activated at Polo Regionale di Lecco.

2005/2006

- Contract Professor of "*Building Elements Design Lab*" (3 ECTS credits) at School of Architectural Engineering of Politecnico di Milano, in the Master of Science of "Building Engineering-Architecture" activated at Polo Regionale di Lecco.
- Teacher of "*Architectural Technology*" (5 ECTS credits) at School of Architectural Engineering of Politecnico di Milano, in the Bachelor of "Construction" activated at Polo Regionale di Lecco.

2006/2007

- Teacher of "*Building Elements Design Lab*" (3 ECTS credits) at School of Architectural Engineering of Politecnico di Milano, in the Master of Science of "Building Engineering-Architecture" activated at Polo Regionale di Lecco.
- Teacher of "*Architectural Technology*" (5 ECTS credits) at School of Architectural Engineering of Politecnico di Milano, in the Bachelor of "Construction" activated at Polo Regionale di Lecco.

2007/2008

- Teacher of *"Building Elements Design Lab"* (3 ECTS credits) at School of Architectural Engineering of Politecnico di Milano, in the Master of Science of "Building Engineering-Architecture" activated at Polo Regionale di Lecco.

2008/2009

- Teacher of *"Building Components Technology A (Tecnologia degli Elementi Costruttivi A)"* (7.5 ECTS credits) at School of Architectural Engineering of Politecnico di Milano, in the Bachelor of "Construction Engineering (Ingegneria dell'Edilizia)" activated at the Leonardo Campus in Milan.
- Teacher of *"Building Elements Design B (Progettazione degli Elementi Costruttivi B)"* (3 ECTS credits) at School of Architectural Engineering of Politecnico di Milano, in the Master of Science of "Building Engineering-Architecture" activated at Polo Regionale di Lecco.
- Teacher of *"Building Elements Design Lab"* (3 ECTS credits) at School of Architectural Engineering of Politecnico di Milano, in the Master of Science of "Building Engineering-Architecture" activated at Polo Regionale di Lecco.

2009/2010

- Teacher of *"Building Components Technology"* (9 ECTS credits) at School of Architectural Engineering of Politecnico di Milano, in the Bachelor of "Construction Engineering" activated at the Leonardo Campus in Milan.
- Teacher of *"Building Elements Design B"* (3 ECTS credits) at School of Architectural Engineering of Politecnico di Milano, in the Master of Science of "Building Engineering-Architecture" activated at Polo Regionale di Lecco.
- Teacher of *"Building Elements Design Lab"* (3 ECTS credits) at School of Architectural Engineering of Politecnico di Milano, in the Master of Science of "Building Engineering-Architecture" activated at Polo Regionale di Lecco.

2010/2011

- Teacher of *"Building Components Technology"* (9 ECTS credits) at School of Architectural Engineering of Politecnico di Milano, in the Bachelor of "Construction Engineering" activated at the Leonardo Campus in Milan.
- Teacher of *"Building Elements Design B"* (3 ECTS credits) at School of Architectural Engineering of Politecnico di Milano, in the Master of Science of "Building Engineering-Architecture" activated at Polo Regionale di Lecco.
- Teacher of *"Management of Complex Projects B (Gestione dei Progetti Complessi B)"* (3 ECTS credits) at School of Architectural Engineering of Politecnico di Milano, in the Master of Science of "Building Engineering-Architecture" activated at Polo Regionale di Lecco.
- Teacher of *"Building Elements Design Lab"* (3 ECTS credits) at School of Architectural Engineering of Politecnico di Milano, in the Master of Science of "Building Engineering-Architecture" activated at Polo Regionale di Lecco.

2011/2012

- Teacher of *"Building Components Technology"* (9 ECTS credits) at School of Architectural Engineering of Politecnico di Milano, in the Bachelor of "Construction Engineering" activated at the Leonardo Campus in Milan.
- Teacher of *"Building Elements Design B"* (3 ECTS credits) at School of Architectural Engineering of Politecnico di Milano, in the Master of Science of "Building Engineering-Architecture" activated at Polo Regionale di Lecco.
- Teacher of *"Management of Complex Projects B"* (3 ECTS credits) at School of Architectural Engineering of Politecnico di Milano, in the Master of Science of "Building Engineering-Architecture" activated at Polo Regionale di Lecco.
- Teacher of *"Building Elements Design Lab"* (3 ECTS credits) at School of Architectural Engineering of Politecnico di Milano, in the Master of Science of "Building Engineering-Architecture" activated at Polo Regionale di Lecco.

2012/2013

- Teacher of *"Building Components Technology"* (9 ECTS credits) at School of Architectural Engineering of Politecnico di Milano, in the Bachelor of "Construction Engineering" activated at the Leonardo Campus in Milan.
- Teacher of *"Building Elements Design B"* (3 ECTS credits) at School of Architectural Engineering of Politecnico di Milano, in the Master of Science of "Building Engineering-Architecture" activated at Polo Regionale di Lecco.
- Teacher of *"Management of Complex Projects B"* (3 ECTS credits) at School of Architectural Engineering of Politecnico di Milano, in the Master of Science of "Building Engineering-Architecture" activated at Polo Regionale di Lecco.

- Teacher of *"Building Elements Design Lab"* (3 ECTS credits) at School of Architectural Engineering of Politecnico di Milano, in the Master of Science of "Building Engineering-Architecture" activated at Polo Territoriale di Lecco.

2013/2014

- Teacher of *"Building Components Technology"* (9 ECTS credits) at School of Architectural Engineering of Politecnico di Milano, in the Bachelor of "Construction Engineering" activated at the Leonardo Campus in Milan.
- Teacher of *"Building Elements Design B"* (3 ECTS credits) at School of Architectural Engineering of Politecnico di Milano, in the Master of Science of "Building Engineering-Architecture" activated at Polo Territoriale di Lecco.
- Teacher of *"Management of Complex Projects B"* (3 ECTS credits) at School of Architectural Engineering of Politecnico di Milano, in the Master of Science of "Building Engineering-Architecture" activated at Polo Territoriale di Lecco.
- Teacher of *"Building Elements Design Lab"* (3 ECTS credits) at School of Architectural Engineering of Politecnico di Milano, in the Master of Science of "Building Engineering-Architecture" activated at Polo Territoriale di Lecco.

2014/2015

- Teacher of *"Building Elements Design B"* (3 ECTS credits) at School of Architectural Engineering of Politecnico di Milano, in the Master of Science of "Building Engineering-Architecture" activated at Polo Territoriale di Lecco.
- Teacher of *"Building Components Technology"* (9 ECTS credits) at School of Architectural Engineering of Politecnico di Milano, in the Bachelor of "Construction Engineering" activated at the Leonardo Campus in Milan.
- Teacher of *"Management of Complex Projects B"* (3 ECTS credits) at School of Architectural Engineering of Politecnico di Milano, in the Master of Science of "Building Engineering-Architecture" activated at Polo Territoriale di Lecco.

2015/2016

- Teacher of *"Building Elements Design A"* (6 ECTS credits) at School of Architectural Engineering of Politecnico di Milano, in the Master of Science of "Building Engineering-Architecture" activated at Polo Territoriale di Lecco.
- Teacher of *"Building Restoration Project"* (12 ECTS credits) at School of Architectural Engineering of Politecnico di Milano, in the Master of Science of "Building Engineering-Architecture" activated at the Leonardo Campus in Milan.
- Teacher of *"Management of Complex Projects B"* (3 ECTS credits) at School of Architectural Engineering of Politecnico di Milano, in the Master of Science of "Building Engineering-Architecture" activated at Polo Territoriale di Lecco.

2016/2017

- Teacher of *"Building Elements Design A"* (6 ECTS credits) at School of Architecture Urban Planning and Construction Engineering, in the Master of Science of "Building Engineering-Architecture" activated at Polo Territoriale di Lecco.
- Teacher of *"Building Restoration Project"* (12 ECTS credits) at School of Architecture Urban Planning and Construction Engineering, in the Master of Science of "Building Engineering-Architecture" activated at the Leonardo Campus in Milan.
- Teacher of *"Management of Complex Projects B"* (3 ECTS credits) at School of Architecture Urban Planning and Construction Engineering, in the Master of Science of "Building Engineering-Architecture" activated at Polo Territoriale di Lecco.

2016/2017

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- Teacher of *"Building Restoration Project"* (12 ECTS credits) at School of Architecture Urban Planning and Construction Engineering, in the Master of Science of "Building Engineering-Architecture" activated at the Leonardo Campus in Milan.
- Teacher of *"Management of Complex Projects B"* (3 ECTS credits) at School of Architecture Urban Planning and Construction Engineering, in the Master of Science of "Building Engineering-Architecture" activated at Polo Territoriale di Lecco.

## OTHER TEACHING ACTIVITIES

- Since 2005 he was supervisor of more than 70 Master's and Bachelor's Degree Thesis dissertations in the Programmes of Building Engineering-Architecture, Construction Engineering and Construction of Politecnico di Milano. His contribution to the development of the dissertations – mainly integrated projects of new construction and refurbishment – focuses, in particular, on innovative technological components for improved sustainability and operational quality, and on the management of the complexity of the design and construction process in contemporary architecture.

- Since 2004 he is among the teachers organising the ATHENS course "*Sustainable low energy houses: basics of design*" taking place each year at the Polo Territoriale di Lecco of Politecnico di Milano. Scientific coordinators: prof. Ettore Zambelli until 2007 and prof. Gabriele Masera since 2008. ATHENS is a week-long course open to selected students from various European engineering schools such as TU Delft, TU Munich, NTNU Trondheim, UPM Madrid, etc.), coordinated by PARISTECH, Paris.
- From Academic Year 1999-2000 to 2001-2002 he is tutor in the course "Building Components Design" held by prof. Ettore Zambelli in the Master of Science of "Building Engineering-Architecture" activated at Polo Regionale di Lecco.
- From Academic Year 2006-2007 to 2009-2010 he is tutor in the course "Management of Complex Projects" held by prof. Adriano De Maio in the Master of Science of "Building Engineering-Architecture" activated at Polo Regionale di Lecco. His contribution to the course, that deals with the organisation of processes, concerns constructional issues and the optimisation of their operative and technological issues.
- 2009, 21<sup>st</sup> to 28<sup>th</sup> September: he is one of the teachers of the International Workshop ECO+DENSITY organised by Politecnico di Milano at the Urban Center of the City of Milan.
- 2010, 18<sup>th</sup> March: he contributes to the Multi-disciplinary course offered by the PhD School of Politecnico di Milano "*IDCT - Innovative Design and Construction Technologies*" (May – June 2010) with two lectures: "*Experimental, low-energy building in Italy: examples for Mediterranean climates*" and "*Innovative components for ventilated façade cladding in new construction and rehabilitation works*".
- 2010, 14<sup>th</sup> December: he teaches at the course "Energy efficiency of the building envelope" for the Waler company in Solaro (Milan). Lecture: "Construction methods and innovative solutions".
- 2011, 22<sup>nd</sup> June: he teaches at the 1<sup>st</sup> level Master in "Innovative materials and techniques for sustainable construction" organised by the University of Palermo and UNISOM. Title of the module: "Experimentation of advanced materials and technologies".
- 2011, 15<sup>th</sup> July: he teaches at the Continuous Education seminar organised by the Brescia Building School "The present of construction and the future to build: problems, ideas and evolutionary scenarios". Title of the module: "Architecture and construction today and in the near future".
- 2013, 16<sup>th</sup> to 20<sup>th</sup> December: he is one of the teachers of the Workshop "*PoLiMi – BCN Re.Set: Identity diversity design. Crear, Diseñar y Construir una Instalación*" organised by the Fundació Enric Miralles in Barcelona, Spain (6 credits).
- 2015, 29<sup>th</sup> June to 10<sup>th</sup> July: he's one of the curators, with Luisa Collina, Manuela Grecchi and Maria Alessandra Segantini of the Summer School: "*Rethink and Reuse EXPO 2015*" organised in the Polo Territoriale di Lecco of Politecnico di Milano from the university: Politecnico di Milano, UEL School of Architecture London, the School of Architecture of the Hasselt University Belgium and the School of Architecture of the University Francisco Maroquin, Guatemala.

## § RESEARCH ACTIVITY

### COMPETITIVE RESEARCHES

- 2012 – 2014, EU (FP7) research "EASEE – *Envelope Approach to improve Sustainability and Energy efficiency in Existing multi-storey multi-owner residential buildings*", coordinated by D'Appolonia (I) and including 18 partners. The goal of the research project is the development of integrated methodologies and prefabricated technological solutions for the energy retrofit of multi-storey housing built after between the 1950s and the 1970s; in particular, through the improvement of performances of the walls with innovative materials and delivery processes. The proposed solutions will be tested on demonstration buildings in three different European countries. (48 MONTHS).
- PRIN 2009: 2011 – 2013, "Innovative methodologies for the energy retrofit and the performance upgrade of the existing building stock, arranged in geoclusters". National scientific coordinator: PROF. EMILIO PIZZI. Specific title for the task in charge to the Milan

Research Unit (scientific director: PROF. EMILIO PIZZI): "Integrated solutions for the performance upgrade and energy retrofit of the building envelope in large public housing complexes". (24 MONTHS).

- PRIN 2004: 2005 – 2007, "Procedures for design and experimentation of innovative technologies for new and refurbished residential buildings with low environmental impact". National scientific coordinator: prof. Ettore Zambelli. Specific title for the task in charge to the Milan Research Unit (scientific director: prof. Ettore Zambelli): "Design strategies and evaluation tools for low-energy residential buildings using highly innovative construction technologies and building services". (24 MONTHS).
- 2002 – 2004, UE-CRAFT research project "C-TIDE" ("*Changeable Thermal Inertia Dry Envelopes*") about the use of phase change materials (PCM) in industrial building components, to confer programmable thermal capacity to lightweight construction elements. Partners of the research project: Politecnico di Milano, Università Politecnica delle Marche, Centre for the Built Environment (BMG) of Gävle (S) and two industrial companies. Scientific coordinator: prof. Mario De Grassi. (24 MONTHS).
- MURST COFIN 1998: 2000 – 2001, "Policies, projects and techniques for the rehabilitation and the transformation of urban peripheries". National scientific coordinator: prof. Fabrizio Schiaffonati. Specific title for the task in charge to the Milan Research Unit (scientific director: prof. Sergio Croce): "SsRrC – Strategies and design tools for the refurbishment and upgrade of residential buildings". (24 MONTHS).

## OTHER RESEARCH ACTIVITIES

From 2000 to 2010 he was a member of the research group of the BEST Department of Politecnico di Milano coordinated by prof. Ettore Zambelli. In this period he took part to research projects dealing with the development of innovative construction technologies and their application in practice; he developed several among studies and proposals, also through experimentation in laboratories and the realisation of real-scale prototypes. The outcomes of these works, developed in cooperation with companies, associations and other research teams, were tested on experimental buildings whenever possible. The activities of this research group continue today, after prof. Zambelli passing away; members of the team are today Prof. Emilio Pizzi, Prof.ssa Manuela Grecchi, Prof. Gabriele Maserà, Prof. Tiziana Poli, Prof. Laura Malighetti, Prof. Giuliana Iannaccone and Prof. Matteo Ruta. The team is based both in the Leonardo and the Lecco campuses of Politecnico di Milano.

Besides the research projects mentioned above, he worked on the following topics:

- 2000: takes part in the research "*Diffusion of technologies with low environmental impact and high use of renewable energy sources integrated in commercial architecture and open spaces*". Topic: innovative solutions for the exploitation of renewable energy in office buildings. Scientific director: prof. Sergio Croce.
- 2005 – 2008: takes part in a research about the technical and energy optimisation of an experimental residential building in Lodi, involving several teachers and researchers of the BEST and other Departments of Politecnico di Milano. This research provided the framework for other activities on innovative technological components (a modular system for ventilated rainscreen facades, a metallic structure based on cold-formed steel profiles, an adjustable and insulating shutter). The building – a house for a charitable foundation – was inaugurated at the beginning of 2008. The building and the connected research projects won the prizes "Next Energy Award 2006" for buildings under construction, "Eurosolar Italia Award 2006" and "Organisms with awareness: design and construction of low-energy buildings 2008".
- 2005: he designed and realised, with Ettore Zambelli, the external areas and the entrance roof of the BEST Department headquarters at Politecnico di Milano, ideated as an educational, real-scale review of the main materials found in construction such as façade cladding, external flooring, transparent roofs, etc.
- 2005 – 2007: takes part in the research for the design on a new component for ventilated rainscreen cladding. The new solution is an example of "technology transfer" and "functional extension of an existing product" and its goal is to improve the energy performance of buildings (especially in the case of refurbishment) with a component that is fast to install and not expensive. The work concentrated then on the optimisation of the component's operational and energy quality and of the process efficiency. The research was developed at the BEST Department of Politecnico di Milano, under the guidance of prof. Ettore Zambelli, with the support of, and in collaboration with, the companies Brianza Plastica, Aderma - GL Locatelli and RDB. The innovative component entered the market at the end of 2007.
- 2005: takes part in the VeLE (Very Low Energy Buildings) research project, with the aim of investigating the current European best practices in the field of housing and identifying design and technology strategies suited to the variability of the Italian climate. Scientific directors: prof. Ettore Zambelli and prof. Sergio Croce.

- 2005 – 2007: he develops studies for the technological optimisation of the B.I.R.D. (Bioarchitettura Inclusione Risparmio energetico e Domotica: Bioarchitecture, Inclusion, Energy Saving and Home Automation) project, designed by prof. Ettore Zambelli and built in Brescia. The project, including flats for seniors and a service centre, is characterised by the extensive use of lightweight construction technologies for energy saving, fast installation and limited environmental impact.
- 2005: takes part in the consultancy activity for the preliminary and detailed design of a multi-functional educational compound in Monzambano, including a primary school, a secondary school, a canteen, a multimedia library, an auditorium and a gym. The collection of buildings is characterised by a careful insertion in the sensitive landscape and advanced solutions for the reduction of its energy consumption and environmental impact. Scientific director: prof. Giuseppe Turchini. The first phase was completed in 2006 and the second is close to completion.
- 2005 – 2006: he takes part in the consultancy activity for the preliminary, detailed and final design of a day-care centre and primary school in Milan, via Brivio, characterised by flexibility, internal comfort and energy efficiency. Scientific directors: prof. Emilio Pizzi and prof. Ettore Zambelli. Client: City of Milan. The building was completed in 2011, and earned an honourable mention at the “Next Energy Award 2008”.
- 2007: takes part in the consultancy activity for the conception and design of the new headquarters of G.R. Informatica S.r.l., Lecco, Italy. The building has an innovative approach to the integration of envelope and services, with high energy efficiency and low emissions. Scientific director: prof. Ettore Zambelli; client: G.R. Informatica S.r.l.
- 2010 – 2011: takes part in the research and consultancy work “999” for the design and engineering of an integrated construction system for subsidised housing. Scientific director: prof. Angelo Lucchini; client: amac Calligione S.r.l. (leader of a group of companies).
- 2011 – 2013: takes part in the research “EDZeN” about the identification of design strategies and industrialised components suitable for the construction of commercial nearly zero-energy buildings. The results of this research work will be implemented in a new office and research building at Politecnico di Milano, Bovisa Campus. Scientific director: prof. Manuela Grecchi.
- 2013. With Ingrid Paoletti and Carlo Poggi, ideation and coordination of the realisation of an experimental parametric pavilion, with a cardboard vaulted structure. The pavilion was designed, produced and assembled in just two weeks as part of a workshop in Milan’s International Fair in Rho-Pero; it served as the pavilion of the ABC Department of Politecnico di Milano during the MADE EXPO construction fair (Milan, 2nd – 5th October 2013).
- 2014 – 2015: consultant for the realisation of temporary exhibition pavilions in timber, with domed structure, for the Expo 2015 in Milan. The structures are designed with innovative technological solutions that will simplify assembly and disassembly and limit costs. Client: Miralles Tagliabue EMBT.

## PARTICIPATION TO EDITORIAL BOARDS OF REVIEWS, SERIES, ENCYCLOPEDIAS AND TREATISES

- 2017: Scientific Coordinator of the Milano Arch Week 2017, which Stefano Boeri was Artistic Director, 12-18 June 2017
- 2016: Director, with Stefano Boeri, of Mi/Arch 2016 International Festival of Architecture, con Stefano Boeri, 12-15 October 2016.
- Since 2016 he’s the scientific editor of “Arketipo” international review, currently published by New Business Media, Milan, where he was scientific consultant from 2006.
- 2012. Member of the Scientific Committee of “PEOPLE MEET INNOVATION”, selection and exhibition of innovative construction technologies, held between 18th and 21st October 2012 at the building fair “SAIE 2012” in Bologna.
- 2013. Member of the Local Scientific Committee of the 39th IAHS World Congress organised by Politecnico di Milano – Department of Architecture, Built Environment and Construction Engineering.

## PRIZES FOR ACTIVITIES RESEARCH

The design of the experimental residential building in Lodi and the related research activities were granted the following awards:

- “Next Energy Award 2006” – category “Buildings under construction”. Prize organised by Fiera Milano International with the Italian Ministerial Department for Environment and Territory and the Kyoto Club (jury: Corrado Clini, Federico Butera, Thomas Herzog, Gianni Silvestrini, Luciano Barra).
- “Eurosolar Italia Award 2006” – category “Solar Architecture and Urban Planning”.

- “Organisms with awareness: design and construction of low-energy buildings 2008” – category “Non-residential buildings”. Prize organised by the review “Costruire” and the City of Lodi.

## PRIZES FOR SCIENTIFIC CONSULTANCIES TO PROJECTS

- M. RUTA (with EMILIO PIZZI) – Director of the section “Materials and innovation” for Miralles Tagliabue EMBT’s proposal in the International Competition for the Italian Pavilion in the EXPO 2015, Milan - February 2013. **Result: Second Prize.**
- M. RUTA (with GABRIELE MASERA) – Green Energy consultant, with G. Masera and AIACE srl, for Miralles Tagliabue EMBT’s proposal in the International Competition for the new Passenger Service Center in the Port of Kinmen (Taiwan) - April 2014. **Result: Honorable Mention 1.**

## § MANAGEMENT ACTIVITY

### INSTITUTIONAL ROLES

- Since January 2017 he is a member of the Board of the School of Architecture Urban Planning Construction Engineering of Politecnico di Milano.
- In November 2016 he was elected member of the Board of the ABC Department (Department of Architecture, Built environment and Construction Engineering) of Politecnico di Milano for the period 2016/2017.
- In November 2015 he was elected member head of the Master of Science in Architectural Engineering of the Politecnico di Milano for the period 2015/2018.
- In February 2013 he was elected member of the Board of the ABC Department (Department of Architecture, Built environment and Construction Engineering) of Politecnico di Milano for the period 2013/2016.
- Since March 2013 to December 2016 he is a member of the Board of the School of Architectural Engineering of Politecnico di Milano.
- Since February 2013 to December 2015 he is a member of the Educational Commission of the ABC Department (Department of Architecture, Built environment and Construction Engineering) of Politecnico di Milano.
- On 11th February 2011 he was elected Coordinator of the Engineering section of the Educational Commission of the BEST Department of Politecnico di Milano for the period 2011/2012.
- Since March 2008 to November 2015 he is elected Secretary of the Board of Teachers of the Master programme in Building Engineering-Architecture of Politecnico di Milano (head: prof. Adele Buratti Mazzotta until 2013 and prof. Manuela Grecchi until 2015).
- Since 2011 he is an elected member of the Joint Committee (teachers and students) of the School of Architectural Engineering of Politecnico di Milano.
- He was an elected member of the Educational Commission of the BEST Department of Politecnico di Milano for the period 2008/2010 representing the Board of Teachers of the Master programme in Building Engineering-Architecture.

Milan, March 28th 2018

Matteo Francesco Ruta