L U C A R O S S A T O

17.04.1979

Msc Arch. (University of Ferrara, Italy)
Specialization Master in Urban and Regional Planning in Develping Countries (IUAV University of Venice, Italy)
Ph.D. in Architecture and Urban Planning (University of Ferrara, Italy)

Personal details

Name: Luca

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Curriculum vitae structure

8_Informatic knowledge

Curriculum vitae index

2.16_ Course: “Tools for Survey and Documentation”, Polis University, Tirana, Albania (from 2023)
2.17_ Course: “Representation, 3D and reverse modeling”, University of Ferrara, Industrial Design Course. (from 2023)

3 Overview: supervising activities

3.1 Degree Theses: “Campos Elíseos: an alternative for the urban regeneration of downtown areas of São Paulo” (Academic Year 2015-2016).
3.2 Degree Theses: “São Paulo: identidade e transformação” (Academic Year 2015-2016).
3.3 Degree Theses: “Traçados Verdes: Rebouças, Prado Velho, Jardim Botânico areas in Curitiba, Brazil” (Academic Year 2015-2016).
3.4 Degree Theses: “Central periphery Strategic proposal for regeneration of an urban identity” (Academic Year 2018-2019)
3.5 Degree Theses: “MODU.LI: project for a modular residential system and possible application” (Academic Year 2020-2021)

4 Overview: research projects

4.1 Turistic sustainable development and conservation of historic centrres: Antonina (PR), Brasil, Ferrara University (2004).
4.2 A GIS for Lubenice, IUAV University of Venice-Cres Municipality, Croatia (2005).
4.3 The International Prize for Sustainable Architecture Fassa Bortolo (from 2008 to 2016).
4.4 Evaluation, analysis and conservation of basic historic building: knowledge and innovative instruments for the safeguard of the historic town (2009), PRIN 2008
4.5 The DOMUS International prize for restoration and conservation Fassa Bortolo (from 2010 to 2016).
4.6 The citadel of Gozo. Restoration strategies and valorisation of Malta fortified system (from 2011 to 2012).
4.7 3D architectural survey for conservation and enhancement of Indian cultural heritage in Ahmedabad, Gujarat, India (2012).
4.8 3D architectural survey and technology transfer seminar for the conservation plan of Nagaur Fort in Jodhpur, Rajasthan, India (2012)
4.9 3D Survey within the research: “Ancient Stabiae. The Ancient Roman Seaside Villas of Stabiae”, Italy (2013)
4.10 3D Survey of “Olivo Gomes House”, São José dos Campos, SP, Brazil (2014)
4.11 3D Survey of “Forte das Andradas”, Santos, SP, Brazil (2014)
4.12 3D Survey of “Fazenda Vargem Grande”, Areias, SP, Brazil (2014)
4.13 3D Survey of “Casa do Anhanguera”, Santana de Parnaiba, SP, Brazil (2014)
4.14 3D Survey of “Museu do eucalipto”, Rio Claro, SP, Brazil (2014)
4.15 3D and diagnsotic survey of “Casa das Canoas”, Rio de Janeiro, RJ, Brazil (2014-2015)
4.16 3D and topographic survey of “Largo da Memoria”, São Paulo, SP, Brazil (2014-2015)
4.17 3D and topographic survey of “Vila Itororòa”, São Paulo, SP, Brazil (2015)
4.18 3D survey of “Fabrica de Ferro de Ipanema”, São João de Ipanema, SP, Brazil (2015)
4.19 3D and diagnostic Survey of School of Architecture and Urbanism Building at the University of São Paulo, Brazil (2016).
4.20 3D Survey of “Casa de Vidro” in São Paulo, Brazil (2016).

4.21 Conservation plan for the “vocational training workshop of the BM Institute” in Ahmedabad, India (2017).
4.22 3D and diagnsotic survey of “Museu Paulista do Ipiranga, São Paulo, SP, Brazil (2017-2018)
4.23_ 3D digital documentation project and enhancement of the Monument to the Independence of Brazil in São Paulo, SP, Brazil (2018-2020).

5 Overview: exhibitions and multimedia

5.1 Dvd: “AS2 Architettura Sostenibile, 32 esempi digitali in dvd di edilizia residenziale, scolastica, produttiva, terziaria, ad uso collettivo”, edited by M. Balzani, Maggioli publisher, Rimini (2008).
5.2 Exhibition: “The survey of Litta Palace in Milan”, Ferrara International Restoration Fair (March 2009).
5.3 Dvd: “Città e tessuti minori, valorizzazione tutela e conservazione, casi studio e metodologie”, CD-Rom in “L’Uffcio Tecnico, n° 1 January 2009, Maggioli publisher, 2009.
5.4 Dvd: “PAI 2010, Premio di Architettura e Ingegneria Cuneo-Savona-Imperia”, a CD-Rom in “L’Uffcio Tecnico”, n° 1 January 2010, Maggioli publisher and in “Paesaggio Urbano” n° 6 (2009).
5.5 Dvd: “AS3 Architettura Sostenibile, 21 edifici residenziali e 9 edifici ad uso collettivo in formato digitale su dvd”, edited by M. Balzani, Maggioli, Rimini (2009).
5.6 Exhibition: The citadel of Gozo, panels and physical wooden model, Ferrara International Restoration Fair (March 2010).
5.7 Dvd: “Progetti per l’abitare 26 edifici contemporanei in dvd di tipologia monofamiliare, bifamiliare e plurifamiliare, edited by M. Balzani, Maggioli publisher, Rimini. (2010)
5.8 Exhibition: “Domus international prize for Conservation and Restoration Fassa Bortolo”, Ferrara International Fair for Restoration (March 2011, 2012, 2013, 2014, 2015, 2017)
5.9 Cd-rom: “Il Premio Sostenibilità 2011, progetti in concorso”, CD-Rom in “L’Uffcio Tecnico”, n° 12 December 2011, Maggioli publisher (2011).
5.10 Exhibition: “Oscar Niemeyer, Ferrara International Fair for Restoration” (March 2013).

6 Publications
7 Awards, comptetion winner and commission member
8 Spoken languages
9 Informatic knowledge

1_Brief Curriculum Vitae

1.1_Short biography

Luca Rossato is an Italian licensed architect, graduated in 2004 at the University of Ferrara Faculty of Architecture, Italy, with a thesis on urban preservation and re-generation of a small historic centre in the south of Brazil where he lived for almost 11 months attending the 4th year at the Pontificia Universidade Catolica do Paranà (Curitiba, Brazil), Faculty of Architecture and Urban Planning. In Curitiba he also worked for the local institute of urban planning (IPPUC) developing skills in urban preservation and revitalization policies and management.
At the end of the master course in "Urban and Regional Planning in Developing Countries" attended in 2005 at the university IUAV of Venice, he defended a thesis on the Kathmandu Valley World Heritage Site presenting a project for the preservation of the Kathmandu Valley UNESCO's Monument Zones. During this research he moved to Nepal where he stayed for 5 months working for UNESCO in Kathmandu and later in Darjeeling (West Bengala, India) for the ONG PAHAR INDIA.
The following year he became consultant in urban preservation in two projects: the first for the conservation of Lubenice, Croatia, in collaboration with IUAV University of Venice and the local municipality and the second one developed in Belluno, Italy, aiming at the restoration of a small mountain village in the northeast of Italy.
From 2006 to 2007 he worked in London as Urban Planner for PTE architects, a practice leader in UK in urban re-generation, collaborating in several projects mainly based in the city's metropolitan area.
Since 2008 he started to cooperate with the University of Ferrara Architecture Department. He holds a PhD (Ferrara University International Doctorate) in Urban Planning and Architecture related to the research “The Sustainability of Preservation. Integration of processes and technologies toward the enhancement of modern architecture in Brazil and India” (SSD ICAR/17).
Since then he has been involved in the publishing sector, serving on the editorial boards of the scientific journals 'Paesaggio Urbano/Urban Design' and 'Journal of Architectural Research and Development (JARD)', and participating in the editorial activities several journals. He is currently a reviewer for the Australian Journal of Architectural Research and Development and the MDPI editorial group.
Since 2017 he is an adherent member of the scientific association UID - Unione Italiana Disegno and since 2019 a member of ICOMOS Italy and Member of the ICOMOS CIPA-HD National Scientific Committee, Documentation of Cultural Heritage (2020).
His interest in modernist architecture led him to found the international research network I N S I D E Modern Heritage of which he is the scientific director since 2021.
He has been visiting professor at Pontificia Universidade Catolica do Paranà (Curitiba, Brazil), CEPT University (Ahmedabad, India), Mackenzie University (São Paulo, Brazil), POLIS University (Albani) and Burgundy School of Business (Dijon, France).
Since 2022 he’s Assistant Professor RTDb (SSD ICAR/17) at the Department of Architecture, University of Ferrara.
He’s deeply involved in publication fields, and he’s been member of editorial staff for “Paesaggio Urbano”, “Architetti.com progetto e immagine digitale”, and “Architetti idee cultura e progetto”, editor of the Australian magazine “Journal of Architectural Research and Development” and author and co-author of more than 170 publications such as books, conference papers, magazine articles and book chapters.

1.2_Academic biography

- MSc Architecture, University of Ferrara, Department of Architecture on 18th of March 2004 (grade 107/110). (SSD ICAR/17 - ICAR/21)
Theses title:
“Urban conservation plan, for the historic centre of Antonina and its original connections with the bay, Morretes and Paranaguà in Brazil”.
Supervisor: Prof. Arch. Paolo Ceccarelli.
Co-Supervisor: Prof. Arch. Gianfranco Franz.

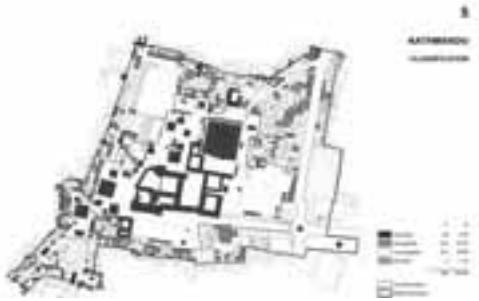
One of the main problems facing all over the territory of the Brazil is the economic stagnation and the under development of the territories that are not part of the metropolitan areas.
This polarization of the development and structural imbalance, highlighted by the geographical and morphological characteristics of the settlements, at the same time creates negative situations of people high density in large urban areas and marginalization in medium-small size centres. Referring to the current trends, the work relates to the region of Curitiba (capital of Paraná State) and has the objective, (considering state programme Paraná Urbano designed in the '90s) of enhancing the cultural and socio-economic life of small towns.
After the identification of main problems and the strengths of three municipalities (Antonina, Morretes and Paranaguà) of the Paranà peninsula, a deep survey was carried out in order to structure a proposal focused on the presence of several interesting elements that require systematising at larger scale (Brazilian unusual perspective).
What was proposed was a complete urban survey of the main architectural complexes in historic centres, new thematic routes and the upgrade of maritime and rail path, to guide visitors (the vast majority from Paranà state) through Serra’s mountains, the waters of the bay and the beautiful coast in order to rediscover the natural environments and settlements that through a forced isolation, have
been able to maintain over the centuries different cultures and traditions.
In this wide scenario, the example of preservation, renovation and re-appropriation of elements of the historical heritage of Antonina (also considering the famous “Festival de Inverno”) and economic development , due to the resumption of activities at Matarazzo harbour , are condition sine qua non to achieve a basic autonomy of these places.




- Specialization Master Degree in “Urban and Regional Planning in Developing Countries”, IUAV University of Venice, Planning Department on 22nd of December 2005.). (SSD ICAR/17 - ICAR/21)
Theses title:
“Kathmandu Valley world heritage site: Kathmandu Durbar Square, Swayambhunath, Boudhanat and Changu Narayan Monument zones”
Supervisor: Prof. Arch.Giorgio Gianighian.
Co-Supervisor: Prof. Arch. Enrico Fontanari.

The Kathmandu Valley site in Nepal was inscribed on UNESCO’s World Heritage List in 1979 as a single site composed of seven Monument Zones (MZs); the heritage values of the seven Monument Zones, (Boudhanath, Bhaktapur Durbar Square, Changu Narayan, Kathmandu Hanuman Dhoka Durbar Square, Pashupatinath, Patan Durbar Square, Swayambhunath), collectively justified the site’s designation as World Heritage on the basis of cultural heritage criteria (iii), (iv) and (vi).
Due to this critical situation UNESCO, after some mission on site decided during the 27th session in Paris (30 June – 5 July 2003) to inscribe the Kathmandu Valley property on the List of World Heritage in Danger, and simultaneously recommended that the State Party legally redefine the core and support (buffer) zones of all Monument Zones, accompanied by management mechanisms to adequately conserve the remaining World Heritage value of the property in the long-term. The research carried out had the main aim of evaluate the heritage conservation conditions linked to physical, social and economic aspects. The data collected by filling out the forms brought us to the realization of G.I.S. maps. Each building was inventoried with its own data and photos and this material will be available for all the municipalities and the organizations involved in order to update and upgrade the information. All the maps have been created with ArcMap and ArcView software.
The research was based on:
- a Physical survey, through which we aimed at understanding the transformations that affected traditional buildings, thus contributing to heritage loss of Outstanding Universal Value (OUV) and to the causes of the urban fabric’s erosion;
- a Socio-economical survey, whose objective was to find out the reasons that brought people to transform their traditional buildings with A total of 3,754 buildings were surveyed, also including other than private buildings-the schools and monasteries that are present in the 2005 survey.



- Grant Researcher, University of Ferrara, Department of Architecture for six months (in 2008). (SSD ICAR/17)

Main activities related to the research position:

2008

- Cooperation on 3D survey project in Ferrara city centre
- Cooperation on modelling and drawing elaboration for volume *AS2 Architettura Sostenibile*, edited by M. Balzani, Maggioli, Rimini, 2009.

- Research Fellow, University of Ferrara, Department of Architecture (from 2009 to 2013, 5 years). “Morphometric analysis by 3D survey technologies aimed at individuating methodologies also based on sustainable architecture principles” (SSD ICAR/17).

Main activities related to the research position:

2009

- Assistant professor for the courses: “Architectural Representation Techniques” and “Architectural docuemtnation” (ICAR 17).
- Research assistant for the project: “Città e tessuti minori, valorizzazione tutela e conservazione, casi studio e metodologie”.
- Editor of cd-rom *Focus-R Restauro Recupero e Riqualificazione*, *Focus-R* conferences proceedings.

2010

- Assistant professor for the courses: “Architectural Representation Techniques” and “Architectural docuemtnation” (ICAR 17).
- Assistant professor for the course: “Drawing Laboratory” (ICAR 17).
- Editor of cd-rom *Focus-R Restauro Recupero e Riqualificazione*, *Focus-R* conferences proceedings.
- Collabroation on the research “Innovative techniques for the restoration, conservation and valorization of the Cultural Heritage” in cooperation with the University of Malta (Malta) Faculty for the Built Environment & International Institute of Baroque Studies.

2011

- Assistant professor for the courses: “Architectural Representation Techniques” and “Architectural docuemtnation” (ICAR 17).
- Assistant professor for the course: “Drawing Laboratory” (ICAR 17).
- Editor of cd-rom *Focus-R Restauro Recupero e Riqualificazione*, *Focus-R* conferences proceedings.
- Coordinator of “Iniziativa di internazionalizzazione tra l’Università di Ferrara e l’Indian Institute of Technology di kanpur, India.”

- Winner of “Young resarch competition fund 2011” with the research: Attività di ricerca e di sperimentazione finalizzata all’individuazione di metodologie funzionali per l’analisi, la diagnostica e il restauro del patrimonio architettonico storico di Jodhpur stato del Rajasthan e di Ahmedabad, in India”.

2012

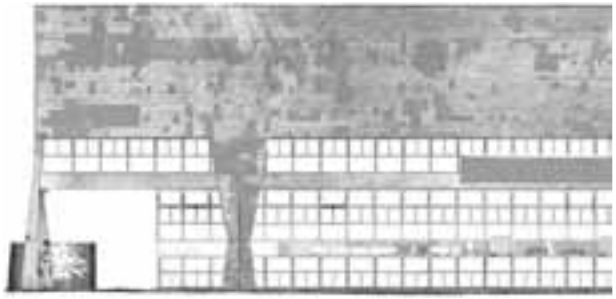
- Assistant professor for the courses: “Architectural Representation Techniques” and “Architectural docuemtnation” (ICAR 17).
- Assistant professor for the course: “Drawing Laboratory” (ICAR 17).
- Editor of cd-rom *Focus-R Restauro Recupero e Riqualificazione*, *Focus-R* conferences proceedings.
- Coordination of the research “Attività di ricerca e di sperimentazione finalizzata all’individuazione di metodologie funzionali per l’analisi, la diagnostica e il restauro del patrimonio architettonico storico di Jodhpur stato del Rajasthan e di Ahmedabad, in India”.
- Coordinator of international survey projets in India (Gujarat and Rajasthan states).

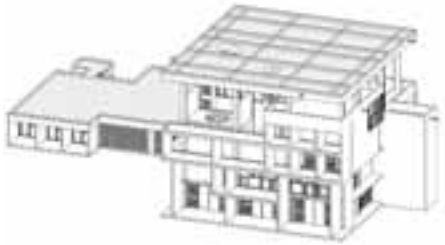
2013

- Assistant professor for the courses: “Architectural Representation Techniques” and “Architectural docuemtnation” (ICAR 17).
- Assistant professor for the course: “Drawing Laboratory” (ICAR 17).
- Collaboration on the research “Oscar Niemeyer’s drawing”, in cooperation with Escola da Cidade, Sao Paulo, Brazil.
- Collaboration on the research “EU-INdia Cultural Heritage as Lever for Urban and Social Inclusiveness Opportunity Network”.
- Coordinator of international survey projets in Brazil (Sao Paulo and Rio de Janeiro states).

- PhD, International Doctorate in Architecture and Urban Planning XXIX cycle, University of Ferrara (2017). (SSD ICAR/17).
Dissertation title:
“The Sustainability of Preservation. Integration of processes and technologies toward the enhancement of modern architecture in Brazil and India”.
Supervisor: Prof. Arch.Marcello Balzani.

The dissertation explores the current state of art of 20th century buildings both in Brazil and India and possible future challenges related to the preservation of design process and buildings by the use of contemporary methodologies and technologies.
The part of the research carried out on the implications of 20th century migration in relation to the spreading out of new architectural styles in India and Brazil, provided a useful framework for understanding and examining the cross-cultural adaptation and hybridization of modernist principles that took place in both the countries and their societies. A short overview of modern architecture in Brazil and India was then provided with the main aim of offering to the reader basic notions about the two scenarios.
The main core of the research path can be basically split in two part: on one hand the evaluation of available tools, protocols and procedures, which make possible the use of equipment for modern heritage preservation and, on the other hand, the identification of more than 250 buildings both Brazilians and Indians of the modernist period, on the which to applied three different filters of selection.
Within this framework the research has identified 80 buildings for application of data sheet and representation techniques, 25 buildings for application of BIM approach and 3 for 3D laser scanner survey application
At the end of the research study the results and future developments have been many and heterogeneous. First of all, maybe the most important, a methodology for the enhancement and preservation of the 20th century architectures in Brazil India has been set up and more than 250 buildings were catalogued and thanks to 3D integrated surveys and related output drawings the overall knowledge on some of them was greatly improved.
For what concerns the impact of the research in both the countries, several awareness programmes (seminars and conferences) on stakeholders have been improving the spreading out of new technologies in heritage field. Last but not least some indications (outputs of the cross checking process) for the preservation of modern buildings by integrated methodology and continuous maintenance have been conceived.



1.3_Academic activities (official)

2013/2014 academic year:

- Second semester: visiting professor at CEPT University Summer School, (Centre for Environmental Planning and Technology) in Ahmedabad, India.

- First semester: contract professor in charge for “Drawing and representation of built environment” course at University of Ferrara Industrial Design Faculty (SSD ICAR/17).

- First semester: visiting professor at PUCPR University (Pontificia Universidade Catolica do Paranà) in Curitiba, Brazil (3 months).

2014/2015 academic year:

- First semester: contract professor in charge for “Drawing and representation of built environment” course at University of Ferrara Industrial Design Faculty (SSD ICAR/17).

- First semester: visiting professor at Mackenzie University “XII semana viver metropole” in São Paulo, Brazil.

2015/2016 academic year:

- First semester: contract professor in charge for “Drawing and representation of built environment” course at University of Ferrara Industrial Design Faculty (SSD ICAR/17).

2016/2017 academic year:

- First semester: contract professor in charge for “Drawing and representation of built environment” course at University of Ferrara Industrial Design Faculty (SSD ICAR/17).

- Second semester: lecturer in charge for “Digitalization and Cultural Heritage” course at Burgundy School of Business, Master in Arts and Cultural Management(SSD ICAR/17).

2017/2018 academic year:

- First semester: contract professor in charge for “Drawing and representation of built environment” course at University of Ferrara Industrial Design Course (SSD ICAR/17).

- Second semester: lecturer in charge for “Digitalization and Cultural Heritage” course at Burgundy School of Business, Master in Arts and Cultural Management(SSD ICAR/17).

2018/2019 academic year:

- First semester: contract professor in charge for “Drawing and representation of built environment” course at University of Ferrara Industrial Design Course (SSD ICAR/17).

- Second semester: lecturer in charge for “Digitalization and Cultural Heritage” course at Burgundy School of Business, Master in Arts and Cultural Management(SSD ICAR/17).

2019/2020 academic year:

- First semester: professor in charge for “Drawing and representation of built environment” course at University of Ferrara Industrial Design Course (SSD ICAR/17).

- Second semester: lecturer in charge for “Digitalization and Cultural Heritage” course at Burgundy School of Business, Master in Arts and Cultural Management(SSD ICAR/17).

- Second semester: professor in charge for “Representation Techniques” course at University of Ferrara, Architecture course (SSD ICAR/17).

2020/2021 academic year:

- First semester: professor in charge for “Drawing and representation of built environment” course at University of Ferrara Industrial Design Course (SSD ICAR/17).

- Second semester: lecturer in charge for “Digitalization and Cultural Heritage” course at Burgundy School of Business, Master in Arts and Cultural Management(SSD ICAR/17).

- Second semester: professor in charge for “Representation Techniques” course at University of Ferrara, Architecture course (SSD ICAR/17).

- Second semester: professor in charge for “Techinical Automatic Drwaing” course at University of Ferrara Industrial Design Course (SSD ICAR/17).

2021/2022 academic year:

- First semester: professor in charge for “3D modelling and representation” course at University of Ferrara Industrial Design Course (SSD ICAR/17).

- Second semester: professor in charge for “Representation Techniques” course at University of Ferrara, Architecture course (SSD ICAR/17).

- Second semester: professor in charge for “Techinical Automatic Drwaing” course at University of Ferrara Industrial Design Course (SSD ICAR/17).

2022/2023 academic year:

- First semester: professor in charge for “3D modelling and representation” course at University of Ferrara Industrial Design Course (SSD ICAR/17).

- Second semester: lecturer in charge for “Tools for Survey and Documentation” course at Polis University, Tirana, Albania, Master in Conservation (SSD ICAR/17).

- Second semester: professor in charge for “Representation Techniques” course at University of Ferrara, Architecture course (SSD ICAR/17).

- Second semester: professor in charge for “Techinical Automatic Drwaing” course at University of Ferrara Industrial Design Course (SSD ICAR/17).

2023/2024 academic year:

- First semester: professor in charge for “Representation, 3D and reverse modeling” course at University of Ferrara Industrial Design Course (SSD ICAR/17).

- First semester: lecturer in charge for “Tools for Survey and Documentation” course at Polis University, Tirana, Albania, Master in Conservation (SSD ICAR/17).

- Second semester: professor in charge for “Representation Techniques” course at University of Ferrara, Architecture course (SSD ICAR/17).

- Second semester: professor in charge for “Techinical Automatic Drwaing” course at University of Ferrara Industrial Design Course (SSD ICAR/17).

1.4_Research activities

- Collaborator at University of Ferrara Architecture Department for the research "Elaborazione di metodiche e applicazioni di rilievo e modellazione tridimensionale in luoghi urbani ed edifici storico-monumentali del Comune di Ferrara", supervisor Prof. Arch. Marcello Balzani, in cooperation with Ferrara municipality, 2004.

- Project Coordinator for the reseach “Turistic sustainable development and conservation of historic centres: Antonina (PR), Brasil, Ferrara University (2004).

- Project Coordinator for the research: “A GIS for Lubenice”, IUAV University of Venice-Cres Municipality, Croatia (2005).

- Collaborator of DIAPReM centre (Development of Integrated Automatic Procedures for Restoation of Monuments) at Univeristy of Ferrara Architecture Department since February 2008.

- Collaboration in editing and paging at volume *AS2 Architettura Sostenibile, 32 esempi digitali in dvd di edilizia residenziale, scolastica, produttiva, terziaria, ad uso collettivo*, edited by M. Balzani, Maggioli publisher, Rimini, 2008.

- Member of editorial staff of the E-Zine www.architetti.com – *Progetto e immagine digitale*, Maggioli publisher, since September 2008.

- Project Coordinator of “The International Prize for Sustainable Architecture Fassa Bortolo” (from 2008 to 2016)

- Collabortor to the PRIN research “Evaluation, analysis and conservation of basic historic building: knowledge and innovative instruments for the safeguard of the historic town (2009)

- Editor of Dvd *Città e tessuti minori, valorizzazione tutela e conservazione, casi studio e metodologie*, Dvd in “L’Uffcio Tecnico”, n° 1 January 2009, Maggioli publisher, 2009.

- Editor of cd-rom Premio Internazionale Architettura Sostenibile Fassa Bortolo, Sesta Edizione 2009, Fassa S.p.A., May 2009.

- Collaboration in editing and paging at volume *AS3 Architettura Sostenibile, 21 edifici residenziali e 9 edifici ad uso collettivo in formato digitale su dvd*, edited by M. Balzani, Maggioli, Rimini, 2009.

- Editor of cd-rom *Focus-R Restauro Recupero e Riqualificazione*, CD-Rom of *Focus-R* conferences proceedings, Fassa S.p.A., April 2009-May 2012.

- Coordinator for University of Ferrara Architecture Department of *International prize for Sustainable Architecture* and *Domus Restoration and Conservation* awards, since September 2009.

- Collaboration on editing of *Progetti per l'abitare 26 edifici contemporanei in dvd di tipologia monofamiliare, bifamiliare e plurifamiliare*, edited by M. Balzani, Maggioli publisher, Rimini, 2010.

- Editor of cd-rom *PAI 2010, Premio di Architettura e Ingegneria Cuneo-Savona-Imperia*, a CD-Rom in "L'Uffcio Tecnico", n° 1 January 2010, Maggioli publisher and in "Paesaggio Urbano" n° 6 November-December 2009.

- Project Coordinator of the "DOMUS international prize for restoration and conservation Fassa Bortolo" (from 2010 to 2016).

- Editor of cd-rom *Il Premio Sostenibilità 2011, progetti in concorso*, CD-Rom in "L'Uffcio Tecnico", n° 12 December 2011, Maggioli publisher, 2011.

- Collaborator to the research "The citadel of Gozo. Restoration strategies and valorisation of Malta fortified system (from 2011 to 2012)

- Collaboration on *The International Prize for Sustainable Architecture Fassa Bortolo Exhibition*, Oskar von Miller Forum, Munich, Germany, curated by, Prof. Werner Lang, TU Munich, September 2012.

- Scientific Director of the research "3D architectural survey for conservation and enhancement of Indian cultural heritage in Ahmedabad, Gujarat, India (2012).

- Scientific Director of the research "architectural survey and technology transfer seminar for the conservation plan of Nagaur Fort in Jodhpur, Rajasthan, India (2012).

- Collaboration on *Oscar Niemeyer Exhibition,* Salone dell'Arte del Restauro di Ferrara, Curated by Arch. Denise Azevedo, March 2013

- Project Coordinator for the DIAPReM centre task of the research “3D Survey within the research Ancient Stabiae. The Ancient Roman Seaside Villas of Stabiae”, Italy (2013).

- Project Coordinator for the research”3D Survey of *Olivo Gomes House*, São José dos Campos, SP, Brazil (2014).

- Project Coordinator for the research “3D Survey of *Forte das Andradas*, Santos, SP, Brazil (2014).

- Project Coordinator for the research “3D Survey of *Fazenda Vargem Grande*, Areias, SP, Brazil (2014).

- Project Coordinator for the research “3D Survey of *Casa do Anhanguera*”, Santana de Parnaiba, SP, Brazil (2014).

- Project Coordinator for the research “3D Survey of *Museu do eucalipto*, Rio Claro, SP, Brazil (2014).

- Project Coordinator for the research “3D and diagnsotic survey of *Casa das Canoas*”, Rio de Janeiro, RJ, Brazil (2014-2015).

- Project Coordinator for the research “3D and topographic survey of *Largo da Memoria*”, São Paulo, SP, Brazil (2014-2015).

- Project Coordinator for the research “3D and topographic survey of *Vila Itororò*”, São Paulo, SP, Brazil (2015).

- Collaboration on: *Viver em Concreto: the modern Housing in Brazil 1945-1970 Exhibition,* Salone dell’Arte del Restauro di Ferrara, Curated by Arch. Riccardo Rubini, May 2015.

- Project Coordinator for the 3D survey of “Fabrica de Ferro de Ipanema”, São João de Ipanema, SP, Brazil (2015)

- Project Coordinator for the 3D and diagnostic Survey of School of Architecture and Urbanism Building at the University of São Paulo, Brazil (2016)

- Project Coordinator for the 3D Survey of “Casa de Vidro” in São Paulo, Brazil (2016)

- Project Coordinator for the conservation plan for the “vocational training workshop of the BM Institute” in Ahmedabad, India (2017)

- Project Coordinator for the 3D and diagnostic Survey of “Museu Paulista do Ipiranga” in São Paulo, Brazil (2018)

- Project Coordinator for the 3D Survey of “Monumento a Independencia do Brasil”” in São Paulo, Brazil (2019-2022)

1.5_Work experiences, training and international collaborations

- IPPUC, Institudo de Pesquisa e Planejamento Urbano de Curitiba, Brazil. (2003)
Stage in urban management and urban planning at the transportation system division.

- IUAV, University of Venice, Municipality of Cres, Croatia. (2004)
Urban survey for the village of Lubenice, Cres Island, Croatia and implementation of a G.I.S. system for monitoring and managing the cultural heritage.

- PAHAR NEPAL, Kathmandu, Nepal. (2005)
Cooperation on the survey for the conservation and valorization of Kathmandu valley heritage.

- UNESCO KATHMANDU, Jawalakhel, Lalitpur, Nepal. (2005)
Stage at UNESCO Kathmandu Valley office. Implementation of a G.I.S. system and editing of a report on the state of conservation of 7 monuments zones.

- School of Planning and Architecture, New Delhi, India. (2005)
Urban surveyor for the historic centre conservation project in Darjeeling, West Bengala, India.

- Studio Mengoli & Pianon Architetti, Mestre, Italy. (from 2005 to 2007)
External consultant for the survey and restoration project proposal for the two villages ofAlbe and Vallier in Rocca Pietore Municipality, Belluno.

- Association "Città Italiane Patrimonio Mondiale UNESCO", Ferrara, Italy. (from 2006 to 2012)
Article writer and external consultant for heritage survey and conservation in developing countries.

- Pollard Thomas Edwards Architects, London, UK. (from 2006 to 2007)
Urban designer and architect for urban revitalization project in London metropolitan areas, UK.

- Fassa S.p.A., Treviso, Italy. (from 2008 to 2017)
Collaboration in development and coordination of the *International Prize for Sustainable Architecture* and *Domus Restoration and Conservation Award*.

- Maggioli Publisher, Rimini, Italy. (from 2008 to 2017)
Member of editorial staff for "Paesaggio Urbano", "Architetti.com progetto e immagine digitale", and "Architetti idee cultura e progetto"

- San Marco Terreal Italia S.r.l., Alessandria, Italy. (from 2009 to 2011)
Scientific collaboration in conference coordination for *Architettura Cosciente Architettura Appropriata*

- Bcubo architects, Bologna, Italy. (from 2010)
External consultant on urban recovery and representation of architecture issues.

- Consorzio Futuro in Ricera, Italy (from 2013 to 2017)
External consultant for event organization

1.6_Speaker at International seminars and conferences

2023
- IMG conference, oral presentation of paper *La Rocca Malatestiana di Verucchio. Rilievo integrato e processo di SCAN to HBIM per la gestione del patrimonio culturale*, L'aquila, 6th – 7th July 2023.

- 44° UID conference, oral presentation of paper *Digital storytelling about the São Paulo Independence Monument: between lost memories and Italian legacy*, Palermo 13th - 16st September 2023.

- The 29th CIPA Symposium (CIPA2023), oral presentation of paper *Ipirangadigital: 3d documentation activities for conservation and awareness increasing of cultural heritage in brazil,* Florence 25-30 June 2023.

2022
- After The Damages International Academy Spring Focus, oral presentation *La documentazione del patrimonio culturale come strategia per il cambiamento climatico,* Webinar 18-19 april 2022

2021

- 42° UID conference, oral presentation of paper Digital storytelling about the São Paulo Independence Monument: between lost memories and Italian legacy, Palermo 13th - 16st September 2019.

2020

- 42° UID conference, oral presentation of paper Digital storytelling about the São Paulo Independence Monument: between lost memories and Italian legacy, Palermo 13th - 16st September 2019.

2019

- 41° UID conference, oral presentation of paper *The Unbuilt Ponte dell'Accademia in Venice designed by Oscar Niemeyer*, Perugia 19th - 21st September 2019.

- IMG_International and interdisciplinary conference on images and imagination, oral presentation of paper *The power of learning by graphic representation. The documentation of Indian historic centers*, Alghero 4th and 5th July 2019.

- World Construction Forum, oral presentation of paper *Digital tools for documentation and analysis of vernacular cultural heritage in Indian city centers,* Ljubljana, 8th – 11th April 2019.

2018

- 40° UID conference, oral presentation of paper *International educational experiences of project survey and representation: cataloguing, analyses and enhancement of 20th century modernist heritage in Brazil,* Milan 13th-15th September 2018.

- 40° UID conference, oral presentation of paper *Survey and representation for the knowledge, documentation and conservation of the Indian heritage. Education and research experiences in Jodhpur and Ahmedabad, India*, Milan 13th-15th September 2018.

- Symposium of Representation Scientific Area for the development of multidisciplinar International programs, oral presentation of abstract *Research activities on Brazilian Cultural Heritage: a cooperation net in the field of technologies for survey and representation*, Florence, June 14, 2018.

- Symposium of Representation Scientific Area for the development of multidisciplinar International programs, oral presentation of abstract *Summer and winter schools between east and west: studying old city centres in India and Italy*, Florence, June 15, 2018.

2017

- International and Interdisciplinary Conference "IMMAGINI", oral presentation of paper "*Digital Toolkit for the Representation, Survey, Preservation and Enhancement of 20th Century Buildings in Brazil and India*, Brixen, Italy, November 27-28 2017.

2016

- International seminar “ENCATC 2016”, oral presentation of paper JODHPUR BOX: *Participatory Processes and Digital Tools for Increasing Awareness of Local Cultural Heritage,* Valencia, Spain - 7th of October 2016.

- International seminar “EuroMed 2016”, oral presentation of paper *Digital tools for heritage preservation and enhancement. The integration of processes and technologies on 20th century buildings in Brazil and India*, Nicosia, Cyprus - 3rd of November 2016.

2015
- Lecture *The conservation of the memory*, speakers L. ROSSATO / M. BALZANI, IAU, USP Sao Carlos, São Paulo, Brazil, 29th of October 2015.

- International seminar “Sustainable facilities management & maintenance”, oral presentation *Cultural Heritage: A Strategic Sustainability Resource*, speaker L. ROSSATO, Singapore, 3rd of July 2015.

- International seminar “RE-ConD’15 International Conference on Re-Evaluating Contemporary Designs in Historical Context”, contribution title *Jodhpur the blue city: restoration and valorization strategies,* Istanbul, Turkey, 23rd of July 2015.
- Lecture *The conservation of the memory*, speakers L. ROSSATO / M. BALZANI, Mackenzie University, São Paulo, Brazil, 29th of August 2015.

2014
- International seminar Versus2014, *Vernacular Heritage, Sustainability and Earthen Architecture,* contribution title “10-year experience from vernacular architecture to contemporary sustainability”, speaker L. ROSSATO, Valencia, Spain, 13th of October 2014.

- Conference *The conservation of the memory*, speakers L. ROSSATO / M. BALZANI, Mehrangarh Museaum trust, jodhpur, India, 4th of December 2014.

2013
- Conference *3D morphometric survey for conservation, restoration and enhancement of cultural heritage*, speakers D. AZEVEDO, L. ROSSATO, Universidade do Vale do Itajai, Camboriu, Santa Catarina, Brazil, 4th of July 2013.

- Conference *3D morphometric survey for conservation, restoration and enhancement of cultural heritage*, speakers D. AZEVEDO, M. BALZANI, L. ROSSATO, Universidade Federal do Minas Gerais, Belo Horizonte, Minas Gerais, Brazil, 2nd of July 2013.

2012
- International seminar *Sustainable Environments in a Changing Global Context,* contribution title “International Prize for Sustainable Architecture. The 10th anniversary”, speakers L. CALABRESE, L. ROSSATO, La Coruna, Spain, 25th of June 2012.

- International seminar *Progress in Cultural Heritage Preservation,* contribution title “Alberti’s Box: The Cultural Multimedia Project on the Architectures of Leon Battista Alberti”, speaker L. ROSSATO, Limassol, Ciprus, 29th of November 2012.

- International seminar *Between East and West: Transposition of cultural systems and military technology of fortified landscapes* contribution title “The citadel of Gozo. Restoration strategies and valorisation of Malta fortified system”, speaker L. ROSSATO, Poppi (Arezzo), 9th - 10th of May 2012.

2011
- International seminar *From Renaissance architecture to XXI century Sustainable perspectives* contribution title “The International Prize for Sustainable Architecture: trends coming from the first 7 editions, excellences chosen between built projects and presentation of the coming 8th edition for 2011” speakers N. MARZOT, L. ROSSATO, Ferrara, 29th of July 2011.

2010
- International seminar *The Second International Conference on Sustainable Architecture and Urban Development* contribution title “The International Prize for Sustainable Architecture, Achievements and Potentials” speaker L. ROSSATO, Amman, Giordania, 13th of July 2010.

2009
- Conference *La grotta di San Michele Arcangelo in Olevano sul Tusciano, un itinerario di recupero e valorizzazione*, speakers F. VIROLI, L. ROSSATO, Olevano sul Tusciano, Salerno, 28th of September 2009.

2007
- Conference *Il recupero degli antichi borghi montani di Albe & Vallier, in territorio Agordino*, speakers S. CORINO, L. ROSSATO, Rocca Pietore, Belluno, 12th of October 2007.

2006
- Conferennce *Kathmandu Valley World Heritage Site: IUAV mission 2005*, speakers O. ALLORI, S. CORINO, L. ROSSATO, World Heritage Centre UNESCO, Paris, Francia, 06th of March 2006.

2005
- Conference *Kathmandu Valley world property in danger*, speakers O. ALLORI, S. CORINO, L. ROSSATO, F. SORANZO, Cà Tron Urban Planning Department, IUAV University of Venice, Venice, 22nd of December 2005,.

- International seminar *Understanding [heritage] changing*, contribution title “The Kathmandu Valley World Heritage Site”, speakers O. ALLORI, L. ROSSATO, F. SORANZO, Kathmandu, Nepal, 05th of August 2005.

- International seminar *Community and conservation*, contribution title “The 2005 Nepal IUAV Mission*”,* speakers O. ALLORI, L. ROSSATO, F. SORANZO, Kathmandu, Nepal, 01st of August 2005.

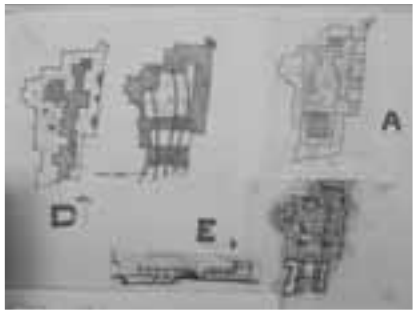
- Conference *Exercises of urban restoration: a G.I.S. for Lubenice*, speakers O. ALLORI, S. CORINO, L. ROSSATO, F. SORANZO, Cà Tron Urban Planning Department, IUAV University of Venice, Venice, 11th of May 2005.

2_Overview: teaching activities (2008-2024)

2.1_International Workshop "Along the silk road: Tehran, Esfahan and Yazd", University of Yazd, Iran (May 2008)
Scientific Director: Gianluca Frediani (University of Ferrara)
Staff: Valentina Cicognani, Riccardo Pedrazzoli, Luca Rossato (University of Ferrara)

ALONG THE SILK ROAD is an inter-cultural project for the promotion of dialogue between iranian and european creative artists which took place annually between 2007 and 2009.
For centuries, the silk road was the principal trans-continental link between asia and europe. It facilitated the exchange of goods and carried knowledge about the respective cultures: asian and european cultures met and merged in Iran. the project along the silk road seeks to follow in the tradition of the region's artistically and culturally intermediary role.
A group of european and iranian students, architects, writers and photographers will travel along the silk road. Together they will visit the towns along this historic trade route and continue the tradition of exchanging goods – in this case, intellectual and cultural goods. to facilitate and promote this exchange, the following activities are planned: a travelling exhibition of photographs, accessible to all and at no cost, presenting an overview of european photography to a wide audience Led jointly by european and oriental artists, giving the opportunity to iranians, particularly the young, to actively engage with the arts objectives: a group of Italians students from Architecture Department of University of Ferrara supported intercultural dialogue and exchange between the eu and iran, and advanced mutual respect and understanding. The Workshop Series gives young students an opportunity to work in an immersive, collaborative and multidisciplinary environment. Each two-weeks workshop is designed by an expert in a topic that is pushing the boundaries of making, and features a combination of informational lectures, structured hands-on learning activities and self-directed open-ended experimentation. Workshop participants have the opportunity to gain exposure to local culture and tangible and intangible heritage.
This kind of workshop was able to advance the acceptance of and understanding between the oriental and european cultural spheres and to establish a support network for the exchange of individuals involved in the arts within and outside europe target groups.



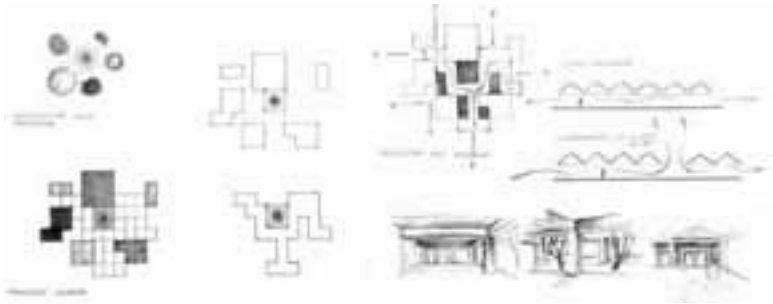



2.2_Course: “Architectural Survey”, University of Ferrara, Architecture Faculty. (Academic Years: from 2008)
Professsor: Marcello Balzani, (University of Ferrara)
Assistant professors: Luca Rossato, Federico Ferrari, Cristina Vanucci, Alessandra Tursi, Nicola Tasselli (University of Ferrara)
Duration: 90 hours

This course has the purpose to tesch the knowledge of theoreticl and procedural aspects related to the understanding of direct survey and to it’s digital reproduction, continuous
sly with the course of Architectural Drawing of the first semester.
The teaching is organized in two integrated modules, Module of Architectural Survey (50 hours) and Module of Techniques of Representation 1 (40 hours).
The module of Architectural Survey 1 has the aim of illustrating the methodologies and procedures of direct survey of architecture in relation to the more common practical range, both professional and scientific. Survey, together with drawing, is part of the representation branch of learning: it describes the architectural object through measurements and analysis, and brings out, through drawings, the product of this process of knowledge.
The module of Techniques of Representation 1 has the aim of maturing the student’s theorical and practical knowledge of digital representation, finalised to the communication of survey data. This module adds the knowledge of digital cad (bi-dimensional) and raster drawing to the learning of the principals of drawing already employed in manual representation.
The exam has a single mark as synthesis of the intermediate evaluations (A, excellent – B, good – C, passing grade - D, unsatisfactory) and final evaluations of the exam.
An unsatisfactory intermediate evaluation entails an oral and/or written/graphic question on that argument the day of the exam. In the final interview the student has to demonstrate a sufficient knowledge of the theorical notions concerning both the modules and show all the documents edited during the semester.

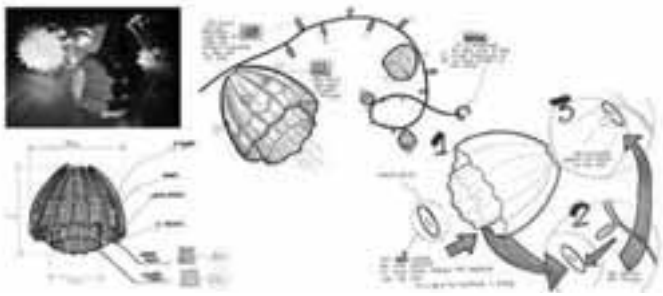
2.3_ Course: “Architectural representation techniques”, University of Ferrara, Architecture Faculty. (from 2008)
Professsors: Marcello Balzani, Federica Maietti (University of Ferrara)
Assistant professors: Luca Rossato, Pietro Massai, Marco Medici (University of Ferrara)
Duration: 90 hours

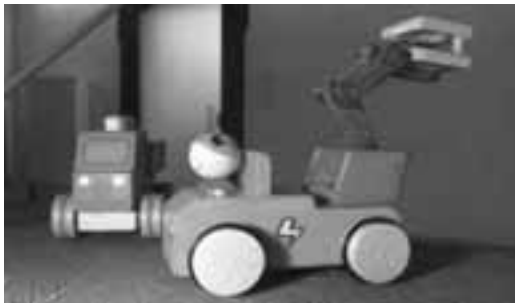
The course of “Architectural Representation Techniques”, a discipline of the second year of Architecture Curriculum at the Department of Architecture of the University of Ferrara, goes through the analyses by different groups of students of built heritage in the vast and heterogeneous ancient and modern contexts.
Since 2008 through the works of the greatest architects it has been possible to browse an important slice of history of architecture, passing by the national identity search for specific local features, an architecture that is eclectic, hybridized, which addresses the theme of living, of dwelling, with a completely new and varied language of a different symbolism from that of the past, redesigned with poetry and sharpness. The use of drawings in order to carry out analytical reviews of the archival heritage can reveal design experiences that reflect the different territorial contexts from which they emerged and the cultural forces behind them.
The so called “survey of the project” was the adopted methodology: by analysing and redrawing the original documents using innovative graphic layouts the research can highlight the potentials of these built architectures.
The aspects taken into account in this phase describe the complexity of the study and the need of well-structured data. The process led to a very good understanding of the designer’s work by the interpretation of original drawings, scheme and pictures, that reveal the design process behind the construction.
The deep knowledge of the buildings, carefully selected and analysed with a precise methodology and representation techniques, had as outputs an exceptional variety of ideas for further research and reinterpretations. For example the study of demolished modern buildings or the reconfiguration of different design hypothesis for the most important buildings of this period.
The elaboration of digital models by Ferrara University Architecture Department staffs has gone through a careful planning and guided process in the field of BIM (Building Information Modelling), a virtual three-dimensional space in which each component can be called full-scale, integrating all information related to the geometry with details concerning the materials employed, the phases of realization, costs, technical characteristics, and by linking the building with environmental factors.



2.4_ Course: “Drawing laboratory”, University of Ferrara, Industrial Design Faculty. (from 2009 to 2013)
Professsors: Marcello Balzani, Gabriele Tonelli (University of Ferrara)
Assistant professors: Luca Rossato, Federico Ferrari, Francesco Viroli (University of Ferrara)
Duration: 144 hours

A designer conceives products addressed not only to a potential market, but also to the society that has its own consumer rituals and manners. The course provides an overall experience in product drawing, from the preliminary concept to its refinement, from physical representation to the communication of the project.
The educational approach stresses the experience provided to the user and the social meaning of the product as the designer must also control the impact that his product will have on a social level. Students are proposed an open, interdisciplinary methodology that values their own cultural background and emphasizes the role of dialogue and mutual exchange in the creative process.
The association with major industrial partners such as Sevi toys industry has the purpose of enhancing the education by providing students with challenging tasks that allow them to face the relationships with business and organizations in a mature way.
Technical training is particularly emphasized to build up solid professional groundings. Students must also use physical modelling techniques in order to represent their design concept.
The course methodological approach has intermediate weekly deliveries: drawings and notebook (elementary geometric constructions, graphic analysis, graphic techniques, conventional systems of representation in the different representation scales, visual perception, axonometry and perspective) and written intermediate test of descriptive geometry such as orthogonal projections.
Futhermore oral and written test of descriptive geometry is held the day of the exam: axonometric and perspective representation development of a “final theme” inherent a residence (plans, fronts, sections, axonometries and perspectives, color).
Drawings must be carried out by each student weekly revised by the teachers and presented the day of the exam.





2.5_International Workshop “Historic City Centres”: course based on urban survey and design, Jodhpur, India (December 20012, 2013, 2014, 2017)
Scientific Directors: Marcello Balzani (University of Ferrara), Minakshi Jain (CEPT University)
Project Coordinators: Pietro Massai, Luca Rossato (University of Ferrara), Chaitra Sharad, Sanket Mhatre (CEPT University)

Historic cities are fragile environments straddling between ideologies of preservation and continuation. Students of the built environments are likely to encounter situations that expect them to actively engage with historic cities where these questions are primary, particularly in the Indian context. As the world of conservation expands itself to acknowledge the coexistence of the old with the new as a potential way of development of the historic city cores, the new professionals will need to be particularly equipped to understand the complexities of such development.
Understanding and developing an ability to analyse the components of the historic city centres, from the perspective of the physical built environment will become a key skill for the professionals.
This course intended to develop interdisciplinary competences of analysis of historic city centres through diagnostic methods.
The course was structured as an in-depth analysis on a topic of great interest in contemporary architecture. Understanding Heritage Changing will be the challenge for the future.
Italian and Indian were the authors of a starting point for the creation of a conscious common heritage feeling. The initiative outputs were able to move towards lot of places, in Jodhpur and outside Jodhpur, also to find founds to preserve this precious heritage. The best way to explore this incredible experience is to understand that the research is in the sharing of ideas. Between students and professors. Between inhabitants and researcher. Between Italy and India.
The workshop series in Jodhpur is becoming year after year a more technological experience. In the future the exposition has to be developed all-around the world in most digital format, to make the people understand that the places to be regenerate are wonderful treasures that the humanity needs to preserve and not to lose: this is in order to maintain and to grow the human experience on the strong basis of tradition.



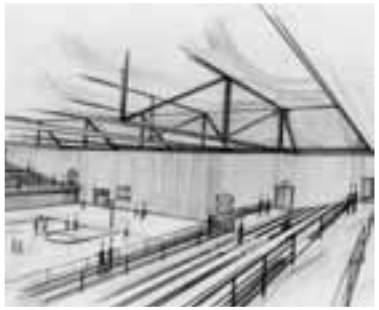
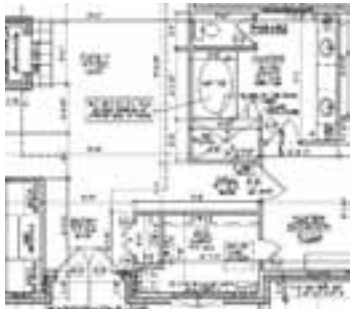


2.6_ Course: “Drawing and representation of built environment”, University of Ferrara, Industrial Design Course. (from 2013 to 2016)
Professor: Luca Rossato (University of Ferrara)
Duration: 20 hours

The Degree Programme in Industrial Design at Ferrara University aims to train professionals to be able to interpret society’s needs, both clearly expressed and latent, and transform them into important, useful and functional concrete objects, which can be produced on an industrial scale and which are environmentally sustainable.
The Course ““Drawing and spatial representation” teaching activity aims to offer students the skills and tools in order to work in this sector, together with cutting edge know-how. The various phases of the course include activities aimed at understanding the use of drawing techniques, the nature of sources material and representation processes.
This course has the aim to train in drawing intended as an instrument for the description of architectural space.
A series of theorical and technical knowledges on methods, means, instruments and rules will allow at the future designer to project and describe spaces. The students should develop the following skills:

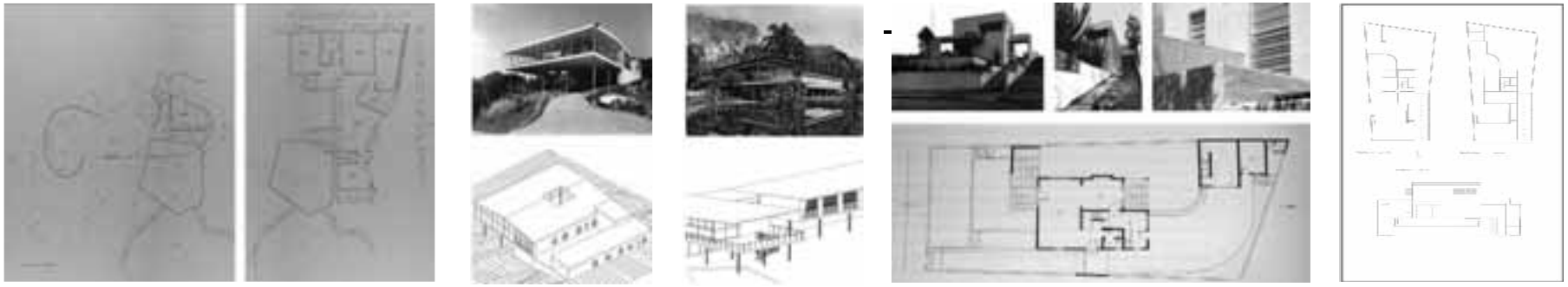
- to understand and analyze the architectural space and represent it correctly
- to identify the techniques of graphic representation
- to identify relation between the spatial principles and the constituent elements of anthropic space
- to represent architectures using national and international conventions
- ro represent architectural space, using methods and procedures of science of representation,
- to use tools of technical drawing and free-hand drawing
- to draw shapes and proportions by real.




2.7_Course: History and representation of brazilian modern architecture, PUCPR University, Curitiba, Brazil (July-September 2014)
Scientific Coordinators: Angela Leitao (PUCPR University)
Professor: Salvador Gnoatto (PUCPR University)
Assistant professor: Luca Rossato (University of Ferrara)
Duration: 30 hours

The course, held at the Architecture and Urban Planning School of PUCPR University in Curitiba examines through case studies the philosophical and practical issues surrounding the Brazilian modern buildings. The starting point was, actually, the Modern Movement Architecture envisioned as a concept that deals with forms, spaces, techniques and social responsibility. Modern Movement is often mistakenly related to a style, perceived in a skin–deep point of view and superficially adopted as simple form, as a modern shape, when in fact Modern Movement has always shown great concern with such issues, seeking for efficiency and economy, i.e., an accurate use of materials, a design approach that incorporates intelligent saving resources in order to create a better world.
That's why the identified theme to focus on is Modern Movement as the absolute primacy of the process over the style, looking for quality of life. Along the 30 hours course the devices created to be efficient according to place and climate, the reflection made on building physics, the relation between heritage, energy and economy, are themes were discussed both as Modern Movement concepts, on a documentation level, and as Modern Movement intervention nowadays, on a conservation level.
If time has slowly switched off the power of the transformer dreams of modernist architects, their buildings are a legacy of extraordinary value that should be protected and enhanced as it is a collection of real lessons of architecture. For this reason, the in-charge teacher of the course decided to analyse by different groups of students the heritage built in the vast and heterogeneous Brazilian contexts.
Through the drawings by the greatest Brazilian architects of the period it is possible to browse an important slice of history of architecture, passing by the national identity search for specific local features, an architecture that is eclectic, hybridized, which addresses the theme of living, of dwelling, with a completely new and varied language of a different symbolism from that of the past, redesigned with poetry and sharpness.



2.8_International Workshop “Sustainability & Conservation toward a tangible future”, University of Ferrara, Italy (2014, 2015, 2016)
Scientific Directors: Theo Zaffagnini, Marcello Balzani (University of Ferrara)
Project Coordinators: Pietro Massai, Luca Rossato (University of Ferrara)
Teachers: Nicola Marzot (Universit of Ferrara), Paola Boarin (University of Auckland, New Zeland), Valter Caldana (Mackenzie University, Brazil), Silvio Oksman (Escola da Cidade, Brazil), Purvi Bhatt and Kulbhushan Jain (CEPT University, India), Nana Kuprahsvili and Mzia Janjalia (Tblisi State Academy of Fine Arts, Georgia).

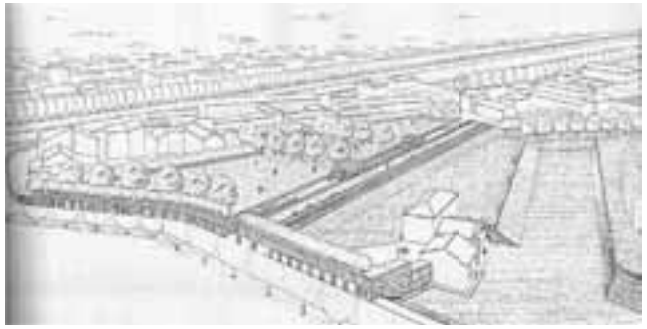
Historic urban areas of a city are valuable assets of a city. They not only generate great cultural interest, but also provide high density housing. Conservation and revitalization of such areas add to the richness and livability for the future of a city.
This future has to deal with the available resources, a careful energy balance and the human environmental impact but should also interact with preservation of heritage (tangible and intangible) that is the basis of the continuity of a critical development for humankind (the theoretical principles of the reversible restoration are just one of the possible examples).
Preserving our cultural heritage and meeting the needs of present generations without limiting those of future generations actually define social behaviors culturally and technologically similar in terms of models and principles.
For instance the historic city centres are essential part of the cultural heritage. They need to be protected as they bring universal outstanding values and the majority of tangible and intangible heritage of each country. However, researchers and professionals concerned with the conservation of historic city centres frequently emphasize the need to accept change.
This often sounds reasonable until the details of the proposed changes emerge. Changes in the physical structure are inevitable and have been continuing from ancient times, but there is the need of control over these changes in order to reach a compromise between sustainability and restoration. For this reason sustainable architecture and heritage conservation needs to find a common field of operation where they could meet needs and criteria in order to create a better future for next generations. The workshop is usually focused both on representation and conservation approaches in order to highlight best practices. The course structure is made up of an interesting mix of lessons and design exercises. International teachers and professionals linked at Ferrara University are involved every year in the course to assure a wider and deeper knowledge of each theme.




2.9_International workshop The Volano riverbanks re-generation, Ferrara, Italy (May 2015)
Scientific Directors: Marcello Balzani (University of Ferrara), Meghal Arya (CEPT University)
Project Coordinators: Pietro Massai, Luca Rossato (University of Ferrara)
Teachers: Romeo Farinella (University of Ferrara), Meghal Arya (CEPT University, India), Nina Bugadze and Tamara Meliva (Tblisi State Academy of Fine Arts, Georgia).

The Volano river is not simply a landmark for the city of Ferrara: it is so much more. This stream is inexorably tied to the city's identity, representing a major element of its memory and heritage. It was the early settlers who, centuries ago, understood the great value the river could have had in terms of sustenance, fluvial transportation, industrial production, and life.
Despite its historical relevance, in these past few decades the city has shifted away from the riversides, holding off from this important resource that was once the lively heart of the whole urban system. So the time has come for Ferrara to rediscover the value of this fundamental part of the city, including the Volano river as a key element within future strategical urban planning processes and projects.
The selected case-study were split into 2 different areas:
Area1 : including the riverbanks' strip between the railway bridge and Ippolito d'Este road (the so called "Bridge of Peace"); this first area needs new strategies in order to re-generate and revitalize the existing settlements along the river.
Area2 : including the riverbanks' stripe between Ippolito d'Este road and Via Bologna; his second area needs new strategies mainly focusing on a specific intervention that would be able to re-generate and revitalize the abandoned marina and the existing paths.
All over the world, water cities represent today a privileged scenario for the activation of important urban re-generation processes. Such dynamics, starting from interventions on waterfronts, disused port areas, docks and banks, have the aim not only to revitalize degraded or abandoned portions of the urban fabric, but also to redeem that ancestral and fundamental bond between the city and its waters.
The aquatic landscape being rivers, seas, lakes or lagoons- contaminates the urban fabric with the fragility of its balance and, at the same time, it qualifies and enriches it with a unique charm. The river element could constitute a key factor within the integrated planning strategies for the urban re-qualification of the city of Ferrara, representing the main challenge for a sustainable and dynamic future urban development. This workshop will be focusing on both architectural survey issues and urban conservation and re-generation approaches, in order to highlight the best practices and disseminate some important visions by renowned European designers.





2.10_International workshop Projetos Urbanos, Sao Paulo, Brazil (2015, 2016)
Scientific Directors: Marcello Balzani (University of Ferrara), Valter Caldana (Mackenzie Univeersity)
Project Coordinator: Mariana Rolim (Mackenzie University)
Teachers: Luca Rossato (University of Ferrara), Valter Caldana and Nieri Araujo (Mackenzie University, Brazil)

The city is the object of our studies and architecture is the discipline with which we try every time to understand it. The project is the technique with which we attempt to transform it, to build it and to own it: the city is the object of our desire.
We live today an expansion of experience of urban culture: so much so that we can say, the dominant culture today is a culture of urban type, even "underground".
The experience of everyday life, today, has experience of the metropolis. But it is a deeply contradictory, at times heartbreaking, because, on the one hand, the city is granted (vendor) as endless show (entertainment society and metropolitan society have become synonymous) and as image, and on the other it is denied to its primary function of historical and anthropological tool.
The Workshop is proposed Mackenzie University of Sao Paulo was founded in 1870 as the "American school", Mackenzie is one of the oldest institutions of higher education in Brazil. The university is regarded nationally and internationally as a center of excellence and is proud to have graduated many important names of Brazilian history. Apart from its main campus in St. Paul, the Mackenzie has offices in the city of Barueri, Brasilia, Campinas, Recife, and Rio de Janeiro. For two years now the University Mackenzie was proclaimed by the commission for the protection of university Brazilian as the first among the private universities of the state of Sao Paulo. This recognition comes after a number of years in which the institution is still remained at the top of the rankings of quality of university education.
The initiative "Projetos Urbanos" is inserted into the week of study called "Semana Viver Metrópole", an event that promotes activities and discussions on architecture, urban planning, art culture and education. Among the various activities planned include conferences, meetings and workshops. Each year, the initiative aims to be the most important week on architecture in Sao Paulo, giving rise to reflections and production of ideas and proposals from professors, professionals and international students.
The workshop focused as the main methodological practice in the design process. Italian and Brazilian students worked together in a concrete case studies of contemporary design in a big city like São Paulo. A challenge methodically and appropriate instruments that was refined during the intense two weeks of work.





2.11_Course: “Digitization and Cultural Heritage”, Burgundy School of Business, Master in Arts and Cultural Management. (from 2016 to 2020)
Professor: Luca Rossato
Duration: 14 hours

The MSc in Arts and Cultural Management is an English-taught postgraduate program that aims to train future arts and cultural managers, who will be able to work in the dynamic and market of cultural and creative industries, both at a national and international level. Graduates from the Msc will be able to work in a large variety of middle and management positions in the fields of performing arts (theatre, dance, music, etc.), cultural heritage (cultural heritage sites, museums, galleries, etc), NGOs in the cultural and creative sector, cultural tourism, cultural and creative industries (media, press, films, music industry, etc.), using their skills and competences to work in the international and national cultural and creative enterprises.
The master prepares students to work as event and project managers in the cultural sector, administration managers and assistants for cultural and creative organizations, in community development, in communication, fundraising and development. Special focus will be put on assisting the students in developing their entrepreneurial project.
The aim of the Digitalization and cultural heritage course is to provide insights on the use of digitalization and new technologies for the preservation, management and enhancement of cultural heritage.
The learning objectives are to understand the role of new technologies in heritage management and to identify the best digital activities related to each type of heritage. The topics addressed in the course are:
- Overview of the technologies available for the cultural survey field;
- Use of technologies for representation of Cultural Heritage in museums and exhibitions;
- Use of technologies for enhancing built Cultural Heritage and street art survey;
- Heritage management: European valorization project, extra European valorization project;
- The use of digitalization in the UNESCO framework and in the European framework
- 3D modelling for Cultural Heritge;
- G.I.S. systems and urban survey through digital techniques.

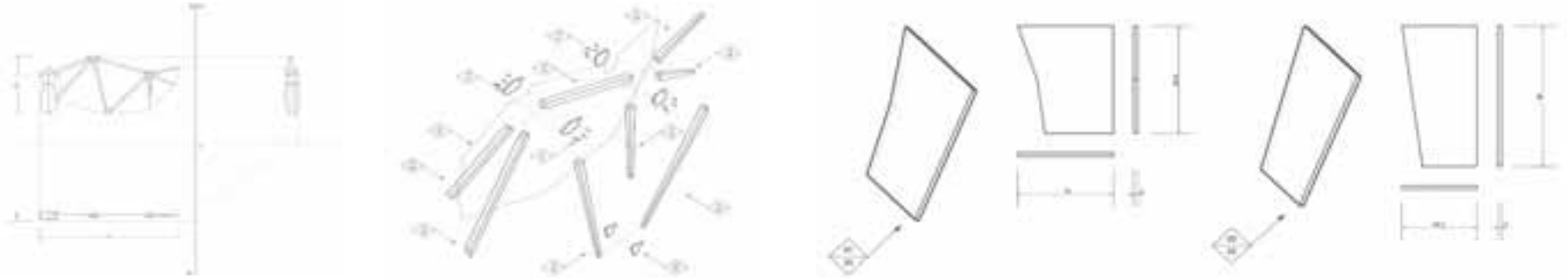


2.12_ Course: “Drawing Laboratory: representation of built environment”, University of Ferrara, Industrial Design Course. (from 2017 to 2020)
Professsor: Luca Rossato (University of Ferrara)
Duration: 48 hours

The objectives of the course is the acquisition by pupils of specific skills related to the design disciplines and representation of space geometry. This knowledge is necessary for the development of a comprehensive learning path and comprehensive in the field of product design and staging.
The teaching model promoted, structured on teaching modules, has highly professionalizing value and contributes to structure an approach to the process of representation, comprehensive, modern and trend-oriented dictated by the world of work.

Structured a basic knowledge of the discipline, it begins a phase of thematic studies, on different levels of depth, where students begin to approach the different forms of discipline. In this phase it addresses the themes of showing events in the architectural space and the representation of the product according to the mechanical drafting legislation. The applied tools are the classic ones of the technical design, linked to the descriptive geometry representation methods (orthogonal), the reproduction ratios of the subject and scale of representation of three-dimensional design methods of two-dimensional support (isometric and perspective).

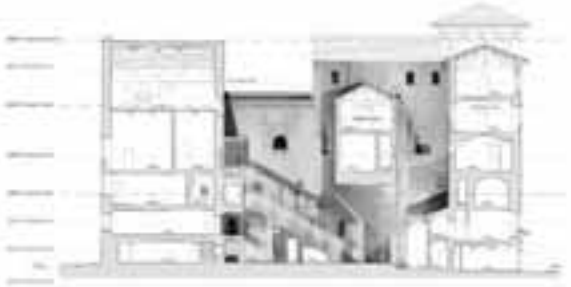
The works produced provides the design basis for a subsequent modeling phase "physical" or prototyping, mockup and scale models made by students.
The creation of a physical model, is the meeting point between the ephemeral component of the project and the tangible reality of the realized model, revealing the structural problems and fostering a greater understanding of the technological aspects and embodiments in addition to those stylistic. This approach of phase with the real is obtained through the use of craft production techniques, which are juxtaposed direct application experiences on the use of highly innovative technological instruments, as apparatuses for rapid prototyping and the cutting numerical control, present in the laboratory models of the Department of Architecture.



2.13_Course: “Technology transfer seminar on 3D laser scanner survey techniques”, Instituto de Arquitetura e Urbanismo de São Carlos, Brazil (April 2017).
Course Coordination: Prof. Renato Anelli (IAU São Carlos, USP University)
Teachers: Luca Rossato, Marcello Balzani, Daniele Felice Sasso (Univerrsity of Ferrara)
Duration: 30 hours

Following the needs identified by the Instituto de Arquitetura de IAU São Carlos (University of São Paulo) and Institudo Lina Bo Bardi, the metric and diagnostics analysis of the complex of “Casa de Vidro” in São Paulo designed by Architect Lina Bo Bardi has been carried out through the 3D laser scanner survey covering the whole building and the wooden building used as Lina Bo Bardi office. Furthermore the external surfaces of the house keeper building and garage have been scanned as well as the main paths of the garden.
At the end of the survey, after the outputs elaboration phase, in order to achieve an effective technology and methodology transfer on activities of diagnosis of the facades deterioration (towards a future complete analysis of all the surfaces of the four façades), a 30 hours seminar took place at the Instituto de Arquitetura e Urbanismo de São Carlos of São Paulo University during which the local staff of the have been teeching the methodology related to:
- representation by database inquiring of façades and plans of the whole building;
- macroscopic analysis of the degradation of the surfaces and their classification and nomenclature.
The topics addressed in the course were:
- 3D Laser scanner technology and basic concepts of point cloud;
- Types of rendering without geometric modification of the point cloud;
- Rendering with calculation agent on the reflectance;
- Generating plans elevations and sections;
- Export of digital elevation model and import of plans, elevation and sections in Cad;
- Management in Cad of DEM (digital elevation model);
- Analysis of macroscopic morphologies of degradations (visual inspections, non-destructive analysis, etc.);
- Diagnostic survey: visual analysis, photographic documentation, instrumental survey, documentation in site.



2.14_ Course: “Architectural survey: representation techniques module”, University of Ferrara, Architecture Course. (from 2019 to 2023)
Professsor: Luca Rossato (University of Ferrara)
Duration: 40 hours

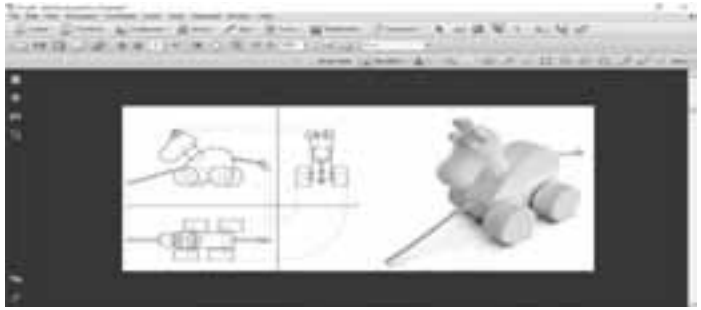
This course has the purpose to acquire the knowledge of theoretical and procedural aspects related to the understanding of direct survey and to its digital representation, in continuity with the course of Architectural Drawing of the first semester.

The teaching is organized in two integrated modules:
1. Module of Architectural Survey 1 (50 hours, cfu 5)
2. Module of Techniques of Representation 1 (40 hours, cfu 4)

The module of Architectural Survey 1 aims at illustrating the methodologies and procedures of direct survey of architecture in relation to the more common practical range, both professional and scientific. Survey, together with drawing, is part of the representation branch of learning: it describes the architectural object through measurements and analysis, and brings out, through drawings, the product of this process of knowledge.
The module of Techniques of Representation 1 aims at improving the student’s theoretical and practical knowledge of digital representation, finalized to the communication of survey data. This module adds the knowledge of digital CAD (bi-dimensional) drawing and raster graphics to the learning of the basics of drawing already applied in manual representation.
The two modules, Architectural Survey and Techniques of Representation, though supplying independently their own theoretical and procedural knowledges, collaborate in synergy providing a direct experimentation using the same study-case.

2.15_ Course: “Automatic Technical drawing”, University of Ferrara, Industrial Design Course. (from 2020)
Professsors: Luca Rossato and Federico Ferri (University of Ferrara)
Duration: 40 hours

The main objectives of the course are to provide students with the necessary knowledge to read and create a technical drawing and to learn how to use 2D and 3D software for the creation and representation of parts and executive tables.
Most of the lessons will be related to the use of software to allow students to gain proper confidence in the skills required by the market.
The learning process is articulated on different types of software specifically designed to elaborate on different types of content. Specifically, the lessons will focus on raster graphics, 2D and 3D vector graphics, providing replicable methods for the different sectors.
The methodological approach used in the teaching process and the experimentation in the classroom ensure that students are indipendent from specific software and can critically orient themselves towards the package most suitable for them. The course also deals with technical drawing and related regulations.
Lessons are focused on advanced vector drawing, three-dimensional modeling, advanced raster graphics, photography, and rendering.
The following tools are used:
- Adobe Photoshop for raster drawing
- Autocad for vector drawinga
- McNeel Rhinoceros for 3D modelling
The training activities are organized in lessons dedicated to theories and methods of representation, to be followed by exercises in workshop mode, aimed at developing application skills.
In order to assess the correct learning and the achievement of educational objectives, the examination consists of two parts:
- evaluation of the long-term exercise concerning the correctness and representative quality of the requested drawings according to criteria established at the beginning of the courses;
- final assessment of the consistency of the methodological approach and the representative choices made and knowledge acquired.




2.16_ Course: “Tools for Survey and Documentation”, Polis University, Tirana, Albania (from 2023)
Professsors: Luca Rossato and Federica Maietti (University of Ferrara)
Duration: 60 hours

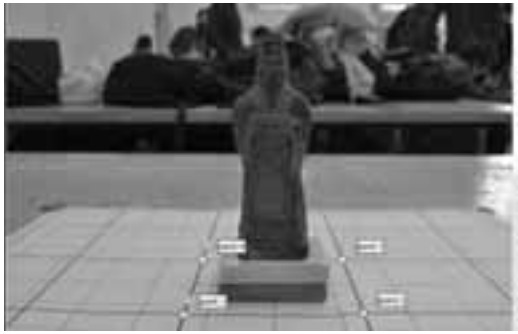
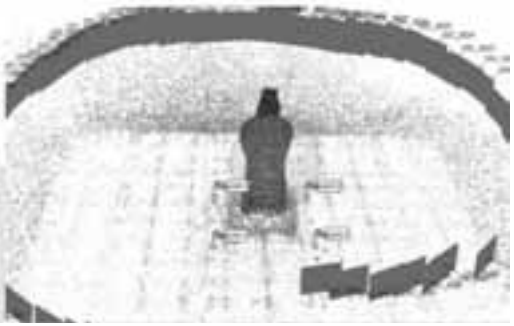
The aim of the course is to provide insights on the use of digitalization and new technologies for survey and documentation of Cultural Heritage. The course will be based on different methodologies for the documentation activities towards the preservation, management, and enhancement of cultural heritage.
The main objective is to understand the role of documentation in cultural heritage preservation and maintenance and to identify the best digital activities related to each type of Cultural Heritage. The technological innovation in the area of documentation of cultural heritage has been, during this last decades, an important tool to support the commitments of researchers and professionals in this field. Nowadays the research for the enhancement of cultural heritage largely depends on a careful evaluation of the new technologies of investigation and intervention developed also in other areas. These technologies need to by hybridized with a process of adapting methods and experimental protocols: the course wants to highlight the possibility of the use of advanced technologies for the cultural heritage field in order to provide the students with a strong methodological approach and a good knowledge of the new possibilities offered by the most advanced technologies.
The topics addressed in the course are:
- Direct and indirect survey aimed at documenting Cultural Heritage buildings and sites
- Thematic surveys, including diagnostic survey for different kind on heritage assessment
- Overview of the technologies available for the cultural field
- Survey and Representation: knowledge and information levels
- Use of technologies for restoration of Cultural Heritage
- Use of technologies for enhancing Cultural Heritage
- Heritage management: European valorization project, extra European valorization project
- Current European research directions toward heritage digitization
- The use of digitalization in the UNESCO framework and in the European framework and case studies.



2.17_ Course: “Representation, 3D and reverse modeling”, University of Ferrara, Industrial Design Course. (from 2023)
Professsors: Luca Rossato and Fabiana Raco (University of Ferrara)
Duration: 40 hours

The main objective of the Course is the acquisition of knowledge and the development of representative skills and competences in the field of interior/exhibition design and industrial design through the main theoretical and methodological tools necessary to understand and analyse the operations related to the realisation and production of a product and an exhibition related to the use of two-dimensional drawing of three-dimensional modelling and also Reverse Engineering starting from data acquired through laser scanning or photogrammetry.
Students at the end of the course should possess the necessary tools to deal with the practice of product design in the different areas of conception, design production, prototype development, as well as interactive and multimedia communication systems supported by new digital technologies.
Students will be able to apply their knowledge, also in multidisciplinary contexts/environments, in order to solve problems related to new or unusual issues related to the professional context of product design.
The course will lead students to a vision of advanced representation with reference to advanced technologies and methodologies capable of integrating and providing up-to-date skills for a labour market that requires constant technological updating.
The course offers students the opportunity to represent projects of objects and small spaces in order to acquire the advanced techniques of graphic representation in these areas and will therefore be divided into two sections, each taught by one of the two lecturers in charge.
The teaching methodology aims at specific and operational knowledge. The student will be introduced to a critical and design use of the acquired methodologies. The teaching activity is divided into lectures, seminars and open lectures (where external speakers will be invited).
The entire didactic activity aims at providing students with the technical and analytical tools to tackle projects of different scales related to interior design and industrial design.

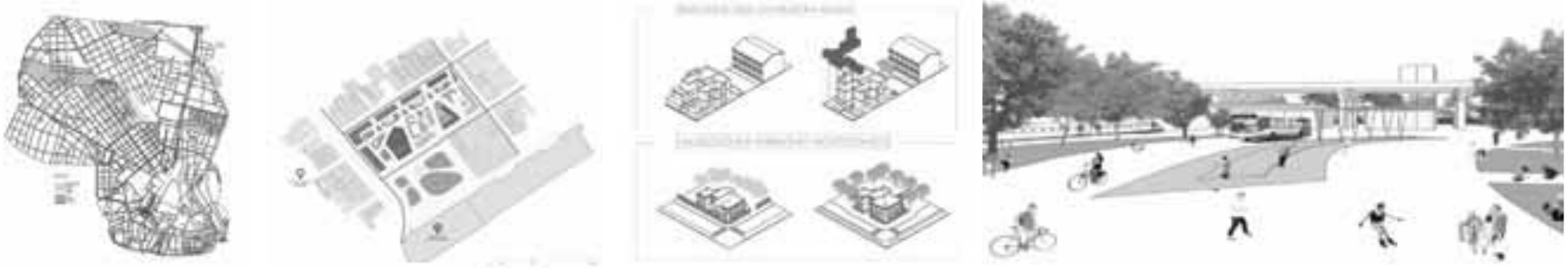


3_Overview: supervising activities

3.1_Theses: “Campos Elíseos: An alternative for the urban regeneration the downtown areas of São Paulo” (Academic Year 2015-2016)
Student: Cristina Iotti
Supervisors: Luca Rossato (University of Ferrara), Mariana de Souza Rolim (Mackenzie University, São Paulo, Brazil)
Co-Supervisors: Romeo Farinella, Sergio Fortini (University of Ferrara)

São Paulo is a city of many faces which every day has to fight against the complexity of the coexistence of eleven million people. Many of its citizens spend more time in the shelter of security systems or metro and overcrowded buses rather than in public spaces. Inhabitants lose time in movements and the city does not offer an adequate amount of meeting places, squares or parks, and its streets are not particularly pedestrian friendly. The city centre is an emblematic case of alternating process of investment and disposals: the development of new centrality in to Southwest has moved away public funds and housing market from the central area.
The city in recent years has renewed its interest in this area with a strong dynamism typical of the urban centre: here are located the main shopping areas and a well-equipped cultural facilities. However, it is also the place of marked contradictions, as shown the high number of homes Squatter (cortiços), homeless people and drug addicts.
The Campos Elíseos neighborhood is part of the historical centre of the city, a place where the memory of the villas of the coffee barons is still alive but decadent. This aristocratic neighborhood character has changed radically through the years and today is associated with situations of urban degradation. Separated from the surrounding neighborhoods by a railway which act as a barrir, Campos Elíseos was a place on the edge of the bustling metropolis; this factor is the cause of many social problems, but at the same time it has allowed the permanence of a pretty active neighborhood life, with a housing stock that retains a strong relationship with the street.
The research wanted to consolidate the social relations of the neighbourhood and investigate the strategy for increasing both the number of residents and public spaces. Rethinking the urban mobility (public transportation and infrastructure), providing new paths for cyclists and pedestrians and proposing the creation of a green infrastructure landscape able to transforms the railway in a permeable green edge were the key points of the dissertation proposal.



3.2_Theses: “São Paulo : identidade e transformação” (Academic Year 2015-2016)
Student: Giuliana Liscio
Supervisors: Romeo Farinella (University of Ferrara), Luca Rossato (University of Ferrara)
Co-Supervisors: Sara Maldina (University of Ferrara)

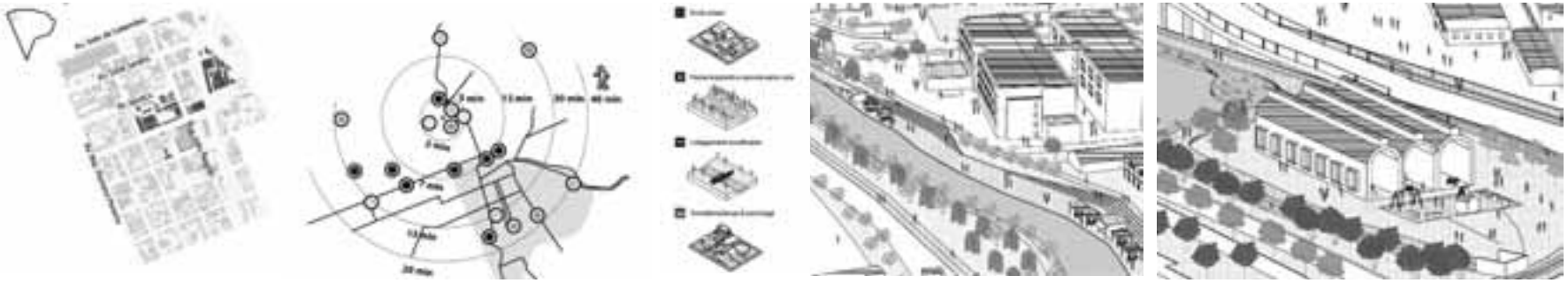
The conformation of the spaces strongly affects their 'identity, but similarly also social and cultural processes transformation can play a key role in this framework
Identity is the result of an evolutionary process in time, it is the product of a continuous urban variation.
This thesis aims at analyzing the meaning of the "public space" belonging to the city center, during the daily scenario, considering the multiplicity of its uses and the quality of these spaces that the urbanization development over the last few centuries strongly affected.
Roads, footpaths, squares, parks, represent the grammar of a city, providing the framework that allows the cities to welcome the most diverse types of activities. There, the human dimension, the opportunities to meet and exchange ideas, the coexistence and entertainment are key issues for a better knowledge of the city itself.
Based on these issues, the attention of this work is focused on the central area of São Paulo. The economic capital of Brazil, with urban planning of the last century has undergone rapid and some times uncontrolled transformations.
The area belonging to the so called Centro Novo often remains outside the social dynamics, constituting a conglomeration of insecure areass often disconnected each other.
The proposed actions for the identified area of study aim at converting the city centre as a crossing point in place of permanence and coexistence.
By valuing the social and cultural dimension, by reactivating the economy of the area and improving urban quality through targeted strategic actions, it acts with punctual interventions making it possible to upgrade not only the public space (squares and green areas), but especially those sites daily used by the inhabitants.





3.3_Theses: “Traçados Verdes: Rebouças, Prado Velho, Jardim Botânico areas in Curitiba, Brazil” (Academic Year 2015-2018)
Students: Marianna Sgarbanti, Letizia Soncini
Supervisors: Romeo Farinella (University of Ferrara), Luca Rossato (University of Ferrara)
Co-Supervisors: André Braga Turbay (PUCPR University, Curitiba, Brazil)

Curitiba, *Cidade Modelo* during the '80s, today presents the problems resulting from its rapid expansion.
Rebouças, that became the central business district in the mid ‘90s, shows the old industrial vocation largely abandoned.
Prado Velho, entertainment center of the aristocratic class in the late nineteenth century, gradually lost its population.
Jardim Botânico, symbol of the *propaganda curitibana*, still leaves traces of its past as a major illegal occupation of the city.
Traçados Verdes is a regeneration project that starts from the built spaces, both derelict or underutilized. It pays attention to the forgotten city, aiming at re-using empty buildings and integrating the missing services.
The project begins with an analysis at multiple levels, investigating the problems related to mobility, in both open and built spaces of the selected area of the capital of Paranà.
Plans and strategies of the municipality and private entities, proposed for the city, become the basis for the proposal within an horizon scene up to 2030.
New pedestrian and cycle paths, bus lanes for buses, neighborhood spaces, equipped parks, cultural centers and innovation and a greater boost to local trade are some of the strategies for the transformation of public spaces, giving benefit to the districts in their entirety.
The construction of a green circuit and the recovery of the riverside were chosen as the starting activities of this transformation that aims at giving new life to this part of Curitiba.

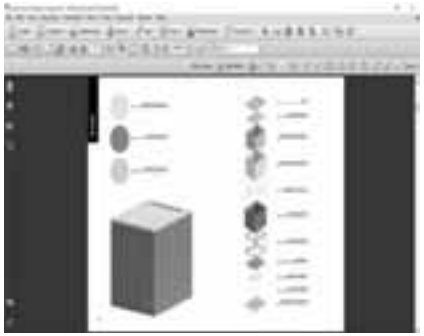


3.4_Theses: “Central periphery Strategic proposal for regeneration of an urban identity” (Academic Year 2018-2019)
Students: Giovanni Gibertini, Michele Millosevich
Supervisors: Elena Dorato (University of Ferrara), Luca Rossato (University of Ferrara)
Co-Supervisors: Romeo Farinella (University of Ferrara), Benjamim Saviani (Instituto Pedra, SP, Brazil)

The urbanisation of the last century brings with it the problem of the suburbs.
The growth of a built-up area, especially if rapid and unplanned, leads to situations of imbalance within the city, which manifest themselves in the congestion in some areas and degradation of others. The latter are so-called peripheral areas, the term meaning term as a condition of marginality, not only morphological but also functional marginality.
The metropolis of São Paulo, due to its dimensions and the rapid development that has characterised it, represents an unprecedented urban case study.
Here the study has found a corner of the city, a central but functionally peripheral corner historically excluded from urban evolution.
This characteristic is the cause the state of widespread degradation of the neighbourhood, but it is also what has made it peculiar.
How to recover this central periphery to be an active component for the city? Reinserting it economic dynamics, enhancing and respecting its unique identity features, is the question this thesis has chosen to address.
The strategy proposes Vila Itorò, a building in state of decay, as the cultural centre of the neighbourhood.
The project idea is to intervene at the end of the restoration and consolidation work, repeating and extending the programme already proposed and tested in cooperation with the Instituto Pedra a NGO very active within the São Paulo metropitan region boundaries.

3.5_ Theses: “MODU.LI: project for a modular residential system and possible application” (Academic Year 2020-2021)
Students: Gaia Rita Grespan, Piero Grigatti
Supervisor: Luca Rossato (University of Ferrara)
Co-Supervisors: Michele Marchi (University of Ferrara)

The project springs from the research on minimal spaces carried out during the Laboratorio di Sintesi Finale (Final Synthesis Laboratory) and from the will to create a modular, reconfigurable, mass-producible system which could allow to aggregate basic units in a theoretically infinite number of combinations to create living spaces of various sizes, suitable for multiple needs.
The unit itself is a properly industrial object, which can be assembled in a production line with standard, interchangeable parts according to the projected use and customer needs; it is also designed for intermodal transport, having dimensions in compliance with the ISO 668 standard for shipping containers. Furthermore, the possibility to vary the type of insulation, of cladding, of plumbing and wiring, …, to make the modules work independently even if disconnected from the grid as well as the flexibility in separating internal spaces and the ease of transport make the structures suitable to almost any type of intended use, from temporary shelters to long-term residential or hospitality projects.
This gave rise to a prolific study of possible methods of building such housing, as well as the needs of stakeholders and local inhabitants.
The original idea was to develop a small (but potentially replicable) residence having structures of various sizes, but all made up of the same
These units, designed to be easily transportable and replicable, became the true focus of the project through the proposal of further onfigurations. In particular, a temporary and territory-independent housing solution, based on the same modules, to host families displaced by natural disasters inspired by the dramatic experiences of the earthquakes in L'Aquila (2009), Emilia (2012) and Amatrice (2016).




4_ Overview: research projects:

4.1_Turistic sustainable development and conservation of historic centres: Antonina (PR), Brasil, Ferrara University (2004)
Scientific Directors: Paolo Ceccarelli, Gianfranco Franz (University of Ferrara)
Project Coordinators: Simone Barbieri, Luca Rossato (University of Ferrara), Leandro Gilioli (PUCPR University,Brazil)
Project staff: Ana Carolina Vianna Bigarella, Ana Luisa Bezzerra, Alessandra Invitti, Arthur Soares Souza, Michelle Carzino (PUCPR University,Brazil)

One of the main problems facing all over the territory of the Brazil is the economic stagnation and the under development of the territories that are not part of the metropolitan areas .
This polarization of the development and structural imbalance , highlighted by the geographical and morphological characteristics of the settlements, at the same time creates negative situations of people high density in large urban areas and marginalization in medium-small size centres.
Referring to the current trends this research work relates to the region of Curitiba (capital of Paraná State) and has the objective, (considering state programme Paraná Urbano designed in the '90s) of enhancing the cultural and socio-economic life of small towns.
After the identification of main problems and the strengths of three municipalities (Antonina , Morretes and Paranaguà) of the Paranà peninsula , an urban features survey and diagnostic study was carried out in order to structure a proposals focused on the presence of several interesting elements that require systematising at larger scale (Brazilian unusual perspective).
What was proposed were new thematic routes and the upgrade of maritime and rail path, to guide visitors (the vast majority from Paranà state) through Serra's mountains , the waters of the bay and the beautiful coast in order to rediscover the natural environments and settlements that through a forced isolation, have been able to maintain over the centuries different cultures and traditions.
In this wide scenario, the example of preservation, renovation and re-appropriation of elements of the historical heritage of Antonina (also considering the famous "Festival de Inverno") are a base for an economic development.
The research output was a publication of the involved Degree Theses developed during 2002-2003 and 2004 at Ferrara University Architecture Department and Pontificia Universidade Catolica do Paranà in Curitiba, Brazil.





4.2_ A GIS for Lubenice, IUAV University of Venice-Cres Municipality, Croatia (2005)
Scientific Director: Giorgio Gianighian (IUAV University of Venice)
Project Coordinators: Olimpia Allori, Stefano Corino, Luca Rossato, Federico Soranzo (IUAV University of Venice)

The IUAV University (Venice, Italy) survey campaign in Lubenice was organised by the Municipality of Cres and the Master in Urban and Regional Planning in Developing Countries under the responsibility of Professor Giorgio Gianighian.
Exactly opposite Valun, along the range of plateaus that rise on the central part of the Cres island, and chained to the top of the hill is where the village Lubenice is situated, bravely resisting storms and wind gusts. The Romans, therefore, named this place Hibernitia (meaning Winterly), building an unassailable fortress that rises on top of a 378m high cliff, sheltered from the east by a protective wall with two doors. Traces of the village's glorious past are still clearly visible, such as the gun slits and the portholes built in the fortress walls. It's enough just to climb on the short wall that encircles the city square to feel intoxicated, feeling like a seagull that freely glides over the tempestuous surface of the navy-blue sea.
A wall and two city gates, one on the southern road approach to the settlement and the northern gate, are all that is left of the medieval fortification system.
The present research aims to implement the survey on the conservation of the urban fabric in order to propose an urban restoration of the whole village. The research was carried out during April 2005 through a survey on all the buildings of Lubenice: each building was inventoried with its own data, plans, elevations and photos and this material is available for the municipality and the organizations involved in order to update and upgrade the information.
The survey has been implemented in the whole village and was carried out on every building; the number of buildings surveyed in this phase amounts to a total of 43. The survey has taken into consideration the facades of each building, their general condition, and the adjacent open spaces. The data gathered through the survey had as result the creation of a GIS in order to better understand the main problems and issues. As a final outcome, a costs analysis has been made to evaluate whether a future restoration of the architectural heritage of Lubenice was affordable or not.

4.3_The International Prize for Sustainable Architecture Fassa Bortolo (from 2008 to 2016)
Scientific Director: Marcello Balzani (University of Ferrara)
Project Coordinator: Luca Rossato (University of Ferrara)
Staff: Pietro Massai, LeaCalabrese, Giulia Reatti, Laura Abbruzzese, Cristina Vanucci (University of Ferrara)

The International Prize for Sustainable Architecture launched in 2003, conceived and promoted by the University of Ferrara's Department of Architecture and Fassa Bortolo aims at supporting and promoting all those initiatives in Architecture that take into proper consideration the environment, that focus on human needs, that satisfy our generations' necessities without limiting, polluting and mindlessly consuming future generations' resources.
The growth of the initiative has been exponential and year after year the Prize involved a growing number of international participants.
uch an initiative has collected the interest and participation of world famous professionals, like Dominique Parrault, Baumschlager & Eberle, Sauerbruch Hutton, Eduardo Souto de Moura, Kengo Kuma, Shigeru Ban, Christoph Ingenhoven, Georg Reinberg, Alejandro Aravena, Philippe Samyn, Diener & Diener, just to mention a few.
Also the board and the jury have followed such a growth in fame and today past participants form a community which is close to the initiative and supports it with various contribution and inspires new ideas in the field of sustainable architecture. Thomas Herzog, Glenn Murcutt, Eirk Bystrup,Francisco Mangado, Francine Houben, Françoise Hélène Jourda, Sir Michael Hopkins, Juhani Pallasmaa, Alexandros Tombazis, Wilfried Wang, Hermann Kaufmann, Matteo Thun, Luigi Prestinenza Puglisi, Brian Ford, Mario Cucinella are just few names of the aforementioned supporters.
The strength of the initiative also lies in the board's full independence from the official sponsor, which has always maintained a neutral attitude focusing on decision's objectivity. The board is coordinated every year by the Architecture Department staff and is composed by professionals with very different cultural backgrounds: they come from diverse from different climatic areas and places to grant the widest range of views and experiences and to promote an informed and balanced evaluation of the projects.





4.4_ Evaluation, analysis and conservation of basic historic building: knowledge and innovative instruments for the safeguard of the historic town (2009), PRIN research 2008

Scientific Director: Riccardo Dalla Negra (University of Ferrara)
Project Coordinators: Giovanni Carbonara (Sapienza University of Rome), Claudio Varagnoli (University of Chieti-Pescara, Maurizio Boriani (Politecnico of Milan), Renata Prescia (University of Palermo).
Research Staff: Rita Fabbri, Marcello Balzani, Giacomo Bizzarri, Michele Bottarelli, Pietromaria Davoli, Luara Gabrielli, Paola Sonia Gennaro, Alessandro Ippoliti, Andrea Rinaldi, Marco Stefani, Federico Ferrara, Guido Galvani, Federica Maietti, Luca Rossato, Keoma Ambrogio, Vittorino Belpoliti, Luca Magarotto, Alice Marzola, Luca Rocchi, Cristina Vanucci, Marco Zuppiroli, Paola Boarin, Anna Lucia Maramotti, Alessandro Pancaldi, Paola Pastore, Paolo Rava (University of Ferrara)

The research focuses on the historic town intended as an architecture to be considered not simply as an image or a whole of buildings, but rather as a system developed with time. Since the early settlement foundation, the town developed on itself and changed following a spontaneous process. Throughout its construction and continuous change, it kept, as a substratum, the original characteristics which will be defined, confirmed or denied with the passing of time. The dynamics of change is mostly influenced by the continuous change and widespread adaptations resulting from changes in terms of demands. These changes may be identified through a critical evaluation process carried out a posteriori, regarding the building fabrics and the single buildings. By analysing the transformation of the building
types (not from a cataloguing but rather from an organic viewpoint) in their definition of a succession of stages, it is possible to observe the 'typological process', i.e. the succession of temporal changes and spatial differentiations typical of each built-up context.
The research effort was focused on the methodology improvement of the typological analysis, the historical understanding, and the conservation procedures of the building framework.
The main research targets were:
-development and testing of survey and synthesis procedures for a historic centre as large and intricate as the Ferrara's one;
-topographic restitution of accurate planimetric and elevation data survey;
-research of indirect historical data sources, such as land register, cartographic, iconographic and literature descriptions;
-acquisition of the direct physical evidence from the actual building structures.



4.5_The DOMUS international prize for restoration and conservation Fassa Bortolo (from 2010 to 2016)
Scientific Director: Marcello Balzani (University of Ferrara)
Project Coordinator: Luca Rossato (University of Ferrara)
Staff: Pietro Massai, Cristina Vanucci, LeaCalabrese, Giulia Reatti, Laura Abbruzzese, Veronica Balboni, Manlio Montuori, Maro Zuppiroli, Luca Rocchi (University of Ferrara)

For many years, the University of Ferrara Architecture Department has been developing initiatives for education and the exchange of design ideas, including through the prestigious “Fassa Bortolo International Prize for Sustainable Architecture”.
These activities also include the DOMUS International Prize for Restoration and Conservation”, the sector’s first initiative aimed at focussing the attention of a wide public on architectural restoration projects which have sensitively interpreted the principles of conservative restoration recognised by the scientific community, in some cases using contemporary forms of expression.
Conceived and promoted by the Ferrara University Faculty in collaboration with Fassa Bortolo, the Prize also aims to acknowledge the fundamental importance of companies working in the restoration field by recognising private and public sector designers and the restoration companies responsible for carrying out the work. The Prize is aimed not just at designers, but also at the specialist companies carrying out the restoration in recognition of the important role played by business skills in the sector.
The Prize is annual and divided into two sections:
- completed works: awarded to private or public sector designers and restoration companies for completed projects;
- projects developed as degree theses.
Every year since 2010 almost 100 entries come from a number of European countries and are assessed by the Jury through in-depth analysis of the documentation presented. The Jury usually comes, according to the Architetcure Department staff, to a unanimous decision, indicating the various projects for their specific quality and conformity to the competition criteria: “architectural restoration projects which have sensitively interpreted the principles of conservative restoration… in some cases using contemporary forms of expression”. These criteria are always interpreted in different ways by the individual participants with consistently interesting and correct entries varying in their approach from the innovative to the conservative, while maintaining the necessary and often inevitable openness to the contribution made by architecture of our time.





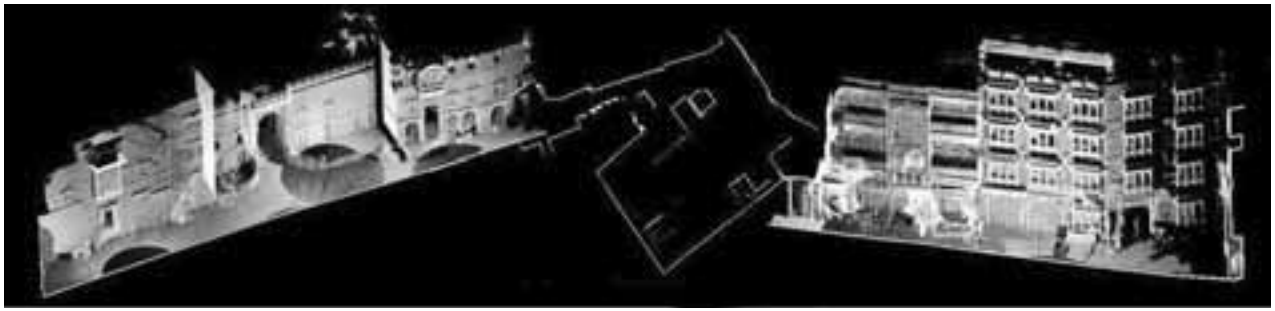
4.6_ The citadel of Gozo. Restoration strategies and valorisation of Malta fortified system (from 2011 to 2012)
Scientific Director: Marcello Balzani (University of Ferrara)
Project Coordinator: Guido Galvani (Agave s.r.l.)
Project Staff: Filippo Casarini, Marcello Guzzinati, Federico Ferrari, Federica Maietti, Luca Rossato (University of Ferrara)

The Restoration Unit of the Ministry for Resources and Rural Affairs of Malta called a tender to survey and documentation of the Citadel of Gozo. In particular, the project was aimed at the three-dimensional survey of the outer and inner surfaces of the walls of fortifications and at the mapping of the conservative condition of structures and surfaces. The main objective of high-definition 3D survey, in addition to the primary one of documentation, was related to the need for a model able to identify the geometry and morphology of each element of the fortifications in order to obtain accurate 2D representations to be used as technical-scientific basis on which develop the restoration project.
In this way it will be possible to obtain a bi-dimensional representation of single element in order to prepare an useful technicalscientific base for future restoration works.
The survey, carefully planned to face the different difficulties of the site was carried out by integrated methodologies such us laser scanner 3D, topographic and photographic survey, and materials and degradation mapping of the whole citadel.
The integrated study on geometries, morphologies and state of conservation was carried out bearing in mind the peculiar condition of the citadel heritage. In this regard, taking as a baseline the Italian document Uni Normal 1 / 88, was drawn up a real abacus for deterioration mechanisms identified, agreed with the client after a number of steps useful for clarification and agreement about the classification of every single morphology.
The morphology of deterioration mechanisms were divided into five categories: physical-chemical deterioration, chemical and due to environmental conditions, biological, anthropogenic and structural degradation. At each morphology has been assigned a code corresponding to the CAD layer of each drawing files the European Regional Development Fund Malta 2007-2013.




4.7_3D architectural survey for conservation and enhancement of Indian cultural heritage in Ahmedabad, Gujarat, India (2012)
Scientific Director: Luca Rossato (University of Ferrara, Young Researcher grant)
Project Coordinator: Alessandra Tursi (University of Ferrara)
Staff: Pietro Massai (University of Ferrara)

The Research Project was fund in 2011 by the Univeristy of Ferrara Grant for young researchers, a competition between research fellows and PhD students by University of Ferraar the which is an useful tool for small projects financing.
The aim of this project was to promote the enhancement of cultural heritage, focusing in particular on technologies and methodologies in the field of representation, conservation and restoration. Ahmedabad, which is the former capital of the Indian state of Gujarat and traditionally was a centre for industry and commerce, is an example of a lively historical centre characterized by strong elements that require revitalization and restoration.
The walled city of Ahmedabad, was founded by Ahmed Shah I of Gujarat Sultanate in 1411. It remained the capital of the Gujarat Sultanate and later important political and commercial centre of Gujarat. Today, despite having become extremely crowded and dilapidated, it still serves as the symbolic heart of metropolitan Ahmedabad.
The master plan for recovery and reuse of the huge Ahmedabad historic centre (the which covers almost 6 sqkm of the whole city) has already involved some investors ready to make an economic effort in order to start a revitalization process of the residential building stock.
The architectural and cultural heritage of the city of Ahmedabad and of the Fort of Nagaur, Jodhpur, requires continuous monitoring and planning of interventions aimed at the restoration. They might be accomplished in a more efficient workforce, exploiting the advantages offered by new technologies, laser scanners, already known in India, but not yet functionally integrated in the processes of conservation.
As required by the local institutions, the project was based on a studies to provide a complete scenario of the potentials of laser scanner technologies: a wooden building in the historic center of Ahmedabad was then selected and studied in deep through hand drawing, laser scanner equipment and non invasive survey methodologies for a period of a week.



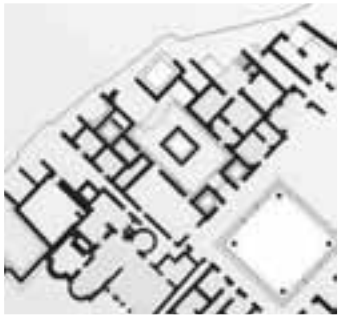
4.8_3D architectural survey and technology transfer seminar for the conservation plan of Nagaur Fort in Jodhpur, Rajasthan, India (2012)
Scientific Director: Luca Rossato (University)
Project Coordinator: Mischa Gorchov Brearley (MGB architects, London, UK) and Alessandra Tursi (University of Ferrara)
Staff: Pietro Massai (University of Ferrara)
Partners: CEPT University (Prof. Minakshi Jain), Mehrangarh Museum Trust (Dr. Karni Jasol), Geogra S.r.l. (Arch. Giuseppe Boselli), Giancarlo Maselli S.r.l. (Ing. Giancarlo Maselli), Digitarca S.r.l (Ing. Leonardo Chiechi)

The Nagaur Fort and Palace complex is one of the finest and most extensive examples of the Rajput-Mughal architectural style. Its exquisite wall paintings provide an insight into 18th-century courtly life in Rajasthan. A fort has existed on this site since the 4th century. The original mud fort has been adapted over the centuries, including 12th-century stone fortifications and 16th-century constructions. Adaption and accretions continued into the 20th century, when the Border Security Forces and District Administration occupied the fort.
The appearance of the fort today is dominated by the building campaign of Maharaja Bakht Singh, who held his court here from 1725-51. Most of the palaces within the fort, and the paintings that decorate them, date from his rebuilding campaign.
Since accepting management of the fort in 1985, the Mehrangarh Museum Trust (MMT) has been working to reinstate Nagaur as a major cultural landmark. Following site-wide investigations to establish and prioritise conservation need, preventive, passive and remedial efforts were focused on the Sheesh Mahal with the support of the Getty Foundation from 2007-2011.
The survey campaign, funded by MGB architects and MMT involved the staff of the University of Ferrara and 3 italian enterprises in order to reach highest level of skills and outputs. During atechnology transfer seminar local engineers of MMT had the chance to get in touch with the technology of 3D laser scanner and all its applications for architectural survey.
The main goal was the awareness of building matrials and features for the group of technicians that attended on field all the scheduled activities of the project.
The buildings and fort complexes owned by the Mehrangarh MuseumTrust could be improved by a holistic approach to the survey and monitoring for the institution’s purposes as for the case of Nagaur conservation plan.




4.9_3D Survey within the research: "Ancient Stabiae. The Ancient Roman Seaside Villas of Stabiae", Italy (2013)
Scientific Director: Marcello Balzani (University of Ferrara)
Project Coordinator: Luca Rossato (University of Ferrara)
Staff: Guido Galvani, Marco Medici and Federica Maietti (University of Ferrara)
In cooperation with: Cyark foundation (USA), Restoring Ancient Stabiae Foundation (Italy-USA)

Ancient Stabiae lies only 4 km from Pompeii, but is a very different type of site: it is primarily occupied by a half-dozen enormous panoramic villas, up to 22,000 meters squared, built directly next to one another over a distance of approximately 1.8 kilometers along the edge of a 50-meter high sea-cliff facing the Bay of Naples.
Due to the eruption of Mount Vesuvius in 79 CE, which buried the city in fourteen meters of dry lapilli (cinder), the villas are spectacularly well-preserved. Walls stand in some cases to the second storey, hundreds of square meters of frescoes are in brilliant condition, and garden surfaces are perfectly preserved when first cleared.
The architecture has many innovative features and the frescoes are among the highest quality of those in the Roman Empire. The caliber of this preservation and the quality of art and architecture make Ancient Stabiae the largest concentration of well-preserved large Roman villas in the entire Mediterranean.
In June 2013, the non-profit Restoring Ancient Stabiae (RAS) Foundation partnered with CyArk and DIAPReM centre to digitally preserve priority areas of the villas, including Villa Arianna, as part of a larger master plan to define and create Ancient Stabiae as a sustainable archaeological park.
To accomplish this, CyArk and DIAPReM staff utilized terrestrial LiDAR scanners (206 survey stations permormed by Leica C10 equipment) in tandem with conventional survey methods to create accurate digital measurements of the villa. In addition to the digital preservation of priority areas at Ancient Stabiae, the RAS Foundation's master plan calls for new measures to transform the site into a museum-park that will soon provide the best place to study Roman villa culture.

4.10_3D Survey of “Olivo Gomes House”, São José dos Campos, SP, Brazil (2014)
Scientific Director: Marcello Balzani (University of Ferrara)
Project Coordinator: Luca Rossato (University of Ferrara)
Staff: Guido Galvani (University of Ferrara)
In cooperation with: Estudio Sarasà (Brazil), Zoller + Fröhlich GmbH (Germany), Fundação Cultural Cassiano Ricardo (Brazil) and Consorzio Futuro in Ricerca (Italy)

The house, designed by the reknown Brazilian architect Rino Levi was built in São José dos Campos in 1951.
It is located in slight slope. It develops practically on a single floor, ground floor. The lower deck is a porch of cylindrical concrete pillars.
The idea is simple yet broad: eight bedrooms with a bathroom each, office, games room, swimming pool, covered garage for six cars, service area with two dormitories for employees.
The building is organized in three sector well demarcated in plan and also elevations. The main access, on the southwest façade, separates the block of dormitories to the left of the social block on the right so that the first impression arriving at the house is connected to constant presence of nature. The third sector is formed by the areas of services and garages.
The helical staircase leading to the lower level was a masterpiece by architect Rino Levi Its design is unique: the steps are supported by a curved concrete beam and at its outer perimeter by steel cables that start from the upper slab. A sculpture for the porch.
Located within an extensive park boundary, the building is a continuous dialogue with nature, with the landscape and with the arts.
Despite his value the buidling is nowaday facing conservation issues and its state of degradation is quite high. For this reason the DIAPReM centre has been appointed to carry out a 3D Laser Scanner Pilot Project to diagnose potential conservation issues, which has resulted as a basis for a future comprehensive survey of the building.
The database could be then helpful to optimize the house maintenance and restoration. The survey was carried out by laser scanner Z+F Imager 5010.

4.11_3D Survey of “Forte das Andradas”, Santos, SP, Brazil (2014)
Scientific Director: Marcello Balzani (University of Ferrara)
Project Coordinator: Luca Rossato (University of Ferrara)
Staff: Guido Galvani (University of Ferrara)
In cooperation with: Estudio Sarasà (Brazil), Zoller + Fröhlich GmbH (Germany), 1ª Brigada de Artilharia Antiaérea (Brazil), and Consorzio Futuro in Ricerca (Italy)

The Fort das Andradas, located on the beach of Munduba, was built to defend the entrance area of Santos Bay between 1940 and 2942. It is a large system of galleries, rooms totally built in the rock.
It was inaugurated on November 10, 1942, in the middle of the Second World War, officially known as Forte das Andradas by in honor of the brothers José Bonifácio (1763-1838), Antônio Carlos and Martim Francisco de Andrada e Silva, important figures of the Brazilian political scene, at the time of the first empire and the Regulative Period.
From the top of the last large defensive structure built in Brazil, it is possible to see completely the beaches of Guarujá and the bay of Santos.
The site has been open to the public since 1994 and visitors are accompanied by a tour guide, but it needs to be rethought as touristic place to increase the number of visitors.
For this reason, the pilot survey investigated the tunnels interior spaces, a kind of a labiritnth built in the midddle of the mountain. Due to the complexity of the plan, the Laser scanner technology has demonstarted to be the right technology for a possible complete survey which could be an important aspect toward the recovery of the structure. The Z+F scanner imager 5010, even working in dark and narrow environments, proved to be ideal for the morphometric restitution of the complex and for connecting the interiors voids (in the heart of the mountain) with external cannons through the "chimneys" used in the past for ammunition transportation.




4.12_3D Survey of "Fazenda Vargem Grande", Areias, SP, Brazil (2014)
Scientific Director: Marcello Balzani (University of Ferrara)
Project Coordinator: Luca Rossato (University of Ferrara)
Staff: Guido Galvani (University of Ferrara)
In cooperation with: Estudio Sarasà (Brazil), Zoller + Fröhlich GmbH (Germany), Fundação Cultural Cassiano Ricardo (Brazil) and Consorzio Futuro in Ricerca (Italy)

The Vargem Grande Fazenda is an ancient rural house for the exploitation of a coffee plantation. The complex was built in 1837 while the coffee company was acquired in 1973 by its current owners. The restoration of the house was carried out by the analyses of antique photos and documents.
The construction of the garden took about ten years. Gradually, Roberto Burle Marx, his partner Haruyoshi Ono and Clement Fagundes Gomes, the owner, were able to transform the coffee court into a wonderful garden with three different levels, water mirrors and natural pools.
The pilot project wanted to test the instrument in a difficult context like that of the garden, rich in water mirrors. Several laser scanner stations have also been located inside the old house and particularly in the entrance compartment toward the garden and the attic allowing the study of its heights and the detection deformation of the roof beams.
The laser scanning survey, carried out through Z+F imager 5010 and more traditional methods, such as direct and topographic survey, seemed to be the best way to analyse the roof structure and to obtain the information directly in a 3D environment. It was decided to use this technique given the features of the space: the reduced visibility, due to the absence of lighting, and a high number of wooden elements with irregular shapes make this structure fascinating and complex and the same time. The laser scanning survey allowed a quick and accurate data acquisition and the main result of this research was also the identification of an operational workflow that can be applied in similar surveys of complex wooden structures in Brazil.




4.13_3D Survey of “Casa do Anhanguera”, Santana de Parnaiba, SP, Brazil (2014)
Scientific Director: Marcello Balzani (University of Ferrara)
Project Coordinator: Luca Rossato (University of Ferrara)
Staff: Guido Galvani (University of Ferrara)
In cooperation with: Estudio Sarasà (Brazil), Zoller + Fröhlich GmbH (Germany), IPHAN São Paulo (Brazil) and Consorzio Futuro in Ricerca (Italy)

Santana de Parnaíba is a city and municipality in the state of São Paulo in Brazil. It is part of the Metropolitan Region of São Paulo and It was founded in 1625 near the Tietê River by Susana Dias, an important “Bandeirante” (Brazilian pioneers) wife.
The “Casa do Anhanguera” museum building, built in the second half of the 17th century through the vernacular technique called "taipa de pilão", which uses ground and wood as the main materials of the masonry.
The building was named in honor of the pioneer Bartolomeu Bueno da Silva (Il Anhanguera).
On November 14, 1962, it was transformed into a Historical and Pedagogical Museum to commemorate the anniversary of the city and keep up-to-date a heritage of great architectural and historical value.
The complex was inserted among the buildings protected by IPHAN in October 1958, and the CONDEPHAAT May 1982.
The complete survey of the building, a typical example of historic buildings in São Paulo state, with structural walls and traditional roof roof tiles was carried out in 2014 by the DIAPReM center in collaboration with Estudio Sarasá and the IPHAN institution of São aulo state.
The methodology applied in this study case, with the laser scanning survey by Z+F imager 5010, allowed us also to understand the geometry and the spatial complexity of the roof structure one of the most typical example of traditionl roof in the region. Soon after its completion the local authority of heritage protection identified in this methodology a a starting point that can be used as a case study to similar buildings. The complete survey of the external façades of the historic center of Santana de Parnaíba is now taken into consideration thanks to this pilot project.




4.14_3D Survey of “Museu do eucalipto”, Rio Claro, SP, Brazil (2014)
Scientific Director: Marcello Balzani (University of Ferrara)
Project Coordinator: Luca Rossato (University of Ferrara)
Staff: Guido Galvani (University of Ferrara)
In cooperation with: Estudio Sarasà (Brazil), Zoller + Fröhlich GmbH (Germany) and Consorzio Futuro in Ricerca (Italy)

The Eucalyptus Museum was created in 1916 by Edmundo Navarro de Andrade. The building shows the results of 39 years of research by Andrade, founder of the forestry garden where the museum is located. It is considered unique in the world because of almost 4 decades of studies on eucalyptus.
In its original structure, the Museum tells the story of the introduction of eucalyptus in the State of São Paulo, its relation with the construction of the railway lines and the role of Companhia Paulista in its diffusion. The place has a permanent exhibition space (including pieces made of eucalyptus wood, such as furniture, panels and utensils), distributed in 16 thematic rooms located on a single pavement, with an area of 800 m2.
The building that hosts the museum has been a prominent pilot project for what concerns all the exteriors and interior rooms of the building.
The internal materials have been subjected to differentiated tests to check the reaction of the laser to dark eucalyptus wood and thus optimize a possible future survey.
Despite other laser scanner the Z+F imager 5010 demonstarted to be very effective in case of dark surfaces.
After the survey campaign, approximately 30 stations were reconnected during the post-processing work of the data in order to extract DEM files of plan, elevations and sections.

4.15_3D and diagnsotic survey of “Casa das Canoas”, Rio de Janeiro, RJ, Brazil (2014-2015)
Scientific Director: Marcello Balzani (University of Ferrara)
Project Coordinator: Luca Rossato (University of Ferrara)
Staff: Guido Galvani and Federica Maietti (University of Ferrara)
In cooperation with: Leica Geosystem (Switzerland), Fundação Oscar Niemeyer (Brazil), Escola da Cidade (Brazil) and Consorzio Futuro in Ricerca (Italy)

Casa das Canoas is an architectural masterpiece of Brazlian Master Oscar Niemeyer who designed the building along the 1950. In terms of architectural design on one hand the house possesses qualities such as flat, thin roof and full height glass, typical for some famous modernist houses such as Mies van der Rohe's Farnsworth House and Philip Johnson's Glass House but on the other its plastic curves and strong connection with the site, make it a peculiar phenomenon in the history of Modernism. The existing differences between the upper floor and the lower make clear the design intentions: while the glass gives a feeling of lightness and openness the occupants would feel exposed at night, so the private part of the house that accommodated the bedrooms, was positioned into the slope of the terrain, where the space feels enclosed, private and secured by the surrounding mass of soil. Thus first floor was liberated and flowing, while the second was cellular and ordered.
The integrated survey at Casa das Canoas in Rio de Janeiro, has been part of this research path since 2014, when, in late November the DIAPReM Centre of the Department of Architecture of the University of Ferrara carried out the on field activities in Brazil with the aim of documentation, knowledge and preservation of one of the most important architecture by the Brazilian architect, Oscar Niemeyer. The total surface area acquired by the instruments during the survey campaign in Brazil included the external area of the house and the garden. This was because the landscape design was part of Oscar Niemeyer's overall design process. A detailed topographic survey (based on acquisition targets) consisting of an open polygon with control points was an integral part of the operation. The research campaign was also documented by a high resolution photographic survey and diagnostic studies into the state of preservation of the materials for conservation purposes.

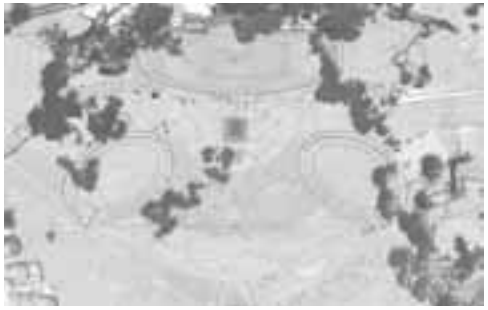




4.16_3D and topographic survey of “Largo da Memoria”, São Paulo, SP, Brazil (2014-2015)

Scientific Director: Marcello Balzani (University of Ferrara)
Project Coordinator: Luca Rossato (University of Ferrara)
Staff: Guido Galvani and Federica Maietti (University of Ferrara)
In cooperation with: Leica Geosystem (Switzerland), Mackenzie University (Brazil), São Paulo Municipality (Brazil) and Consorzio Futuro in Ricerca (Italy)

Largo da Memória is an historic place located in the center of the city of São Paulo, Brazil, at the beginning of 7 de Abril Street (formerly Rua da Palha). Considered a symbol and reference of the process of urbanization of the capital of the State of São Paulo, it is delimited by a "triangle" created unintentionally that, later, due to the need for urbanization, involved the streets Coronel Xavier de Toledo, Quirino de Andrade] and the Ladeira da Memória, near the Anhangabaú Valley.
Created at the end of the colonial period, the square houses the oldest monument of São Paulo, the Obelisco do Piques, inaugurated in 1814.
The site, during the last century, has undergone several changes, had the placement of walls, staircases and a portico.
The main aim of the 3D survey of the urban space of Largo da Memoria in São Paulo was to define a methodology for documenting the urban space preliminary to restoration and conservation work and as an example of "good practice" to stimulate other projects to improve the city's public spaces.
In parallel to the geometric-morphological survey, a photographic survey was also carried out of the urban space as a whole, the street furniture and the decorative features of the Largo (as well as the main deterioration morphologies in order to document the overall state of conservation), while the operations involved in the 3D laser scanner survey were documented photographically.
The pilot project was carried out in collaboration with the Faculty of Architecture and Town Planning of the Mackenzie Presbyterian University and the Municipality of São Paulo.

4.17_3D and topographic survey of "Vila Itororòa", São Paulo, SP, Brazil (2015)

Scientific Director: Marcello Balzani (University of Ferrara)
Project Coordinator: Luca Rossato (University of Ferrara)
Staff: Daniele Felice Sasso (University of Ferrara), Benjamim Saviani (Istituto Pedra)
In cooperation with: Leica Geosystem (Switzerland), Istituto Pedra (Brazil) and Consorzio Futuro in Ricerca (Italy)

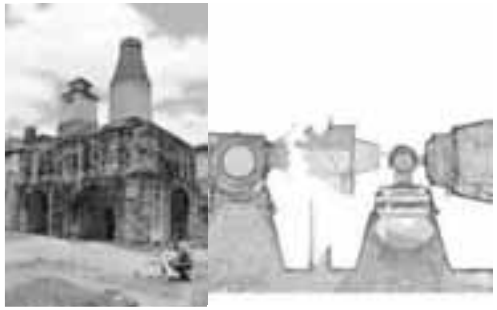
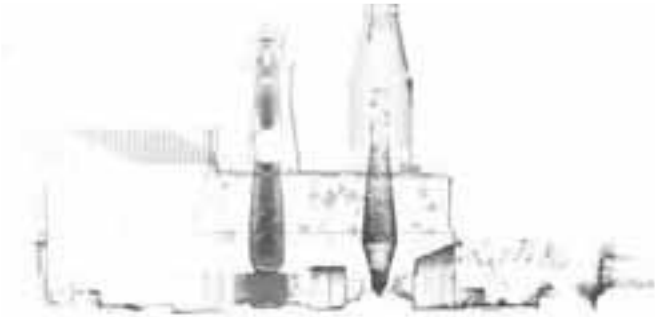
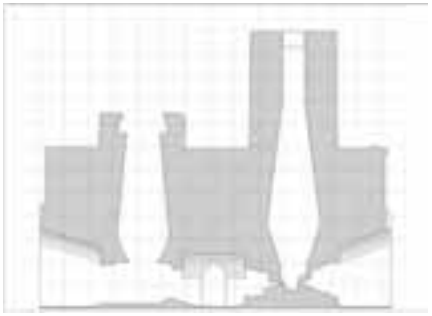
Vila Itororó is a complex located in Rua Martiniano de Carvalho, in the Bela Vista neighborhood of São Paulo, Brazil. The architectural ensemble consists of a large building split on four levels and several houses and was built like a small village between 1922 and 1929 by entrepreneur and Portuguese businessman Francisco de Castro.
The architectural development of the main building has seen three overlap houses in nearly fifty years of constant changes of appearance, sometimes even radical. Many decorations, such as pilasters, caryatids and sculptures depicting Greek gods were probably removed from the the old Teatro São Jose. The walkways that still connect the building with the road, in a complex topography, have been originally made of wood, but over the years have been replaced by structures in reinforced concrete, currently in poor condition.
The Vila have also seen the construction of the first private pools for public use in São Paulo, now closed for maintenance and management problems (but which until 1980 was part of the club Eden Freedom). The HDS survey test was the first step to start the bureaucratic process for access to the municipal funds for the restoration of this architecture. The survey was carried out by 3D laser scanners (Leica P20) with total station for the integration of the data. The integration of equipments (laser scanner and total station) is the basis for the resolution of the individual laser scans' registration problems. The survey's test has been carried out for a portion of the outside surface and for two rooms characterized by refined detail.The registered model obtained from the test, allows the reading the object highlighting the forms of degradation (materical and structural). The use of the database is important to dialogue with the municipality institutions in order to obtain public funding for the Villa's restoration.



4.18_3D survey of “Fabrica de Ferro de Ipanema”, São João de Ipanema, SP, Brazil (2015)

Scientific Directors: Marcello Balzani (University of Ferrara), Dernando Landgraf (IPT - Instituto de Pesquisas Tecnológicas de São Paulo, Brazil)
Project Coordinator: Luca Rossato (University of Ferrara)
Staff: Daniele Felice Sasso (University of Ferrara)
In cooperation with: Leica Geosystem (Switzerland), IPT - Instituto de Pesquisas Tecnológicas de São Paulo (Brazil) and Consorzio Futuro in Ricerca (Italy)

The 3D laser scanner pilot project of the remaining blast furnaces built in 1818 by Ludwig Friedrich Varnhagen for the Real Fábrica de Ferro de São João de Ipanema, a company made up of King Joao VI's investments and businessmen from Sao Paulo, Rio De Janeiro and Bahia, was held at the end of 2015.
The DIAPReM center team collaborated with USP (Politecnico, IPT and Faculty of Architecture and Urban Planning) to record the interior architecture of the Southern furnace, whose date of the last operation is unknown (some scholars claim it was the year 1895, others in 1925).
The relief campaign was able to acquire the morphologies of most of the ovens complex by also placing the instrument inside the two chimneys in order to consistently detect the internal structure of the structures. The survey will allow to verify the historical drawings made by the expert Antonio Luiz Dias de Andrade (Janjão) on the ovens structures.
The size, volumetric articulation of the environments, the surface characteristics and the particular constructive conditions have led the project towards a multiple methodological integration: 1) 3D scanner survey designed to generate a point cloud model; 2) topographic detailed survey of the homology points only for the definition of a scanning mesh; 3) high resolution photographic survey aimed at a comprehensive and detailed documentation of the conservative state of the complex.
The three-dimensional survey was carried out using a Leica P20 laser scanner equipment.

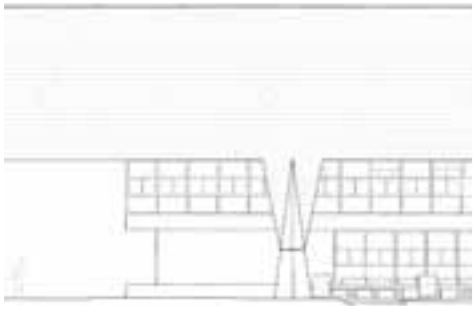
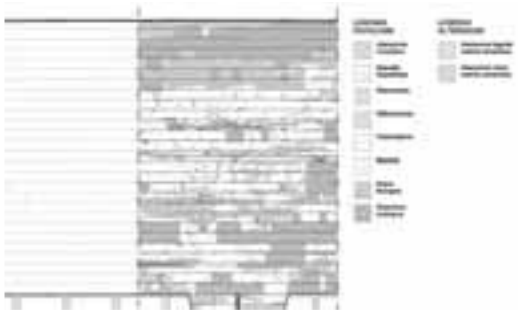
4.19_3D and diagnostic Survey of School of Architecture and Urbanism Building at the University of São Paulo, Brazil (2016)
Scientific Director: Marcello Balzani (University of Ferrara)
Project Coordinator: Luca Rossato (University of Ferrara)
Staff: Guido Galvani, Federica Maietti, Daniele Felie Sasso (University of Ferrara)
In cooperation with: The Getty Foundation (USA), Fundação de Apoio à Universidade de São Paulo (Brazil), Consorzio Futuro in Ricerca (Italy)

In the early 1960s the School of Architecture and Urbanism at the University of São Paulo turned to one of Brazil's most important modernist architects, João Batista Vilanova Artigas, to design a new faculty building in collaboration with Carlos Cascaldi. Taking their cues from the Brutalism of the late Le Corbusier, Artigas and Cascaldi created a monumental structure that emphasizes the elegance of modern materials such as concrete and glass with minimal decoration. While past repairs have been undertaken on a case by case basis, the faculty was embracing the development of a conservation management plan with Getty support to produce a holistic approach to the maintenance of the building's key features. This methodology has been integrating into the teaching curriculum as a tool to educate the next generation of Brazilian architects on the value of strategic planning for the conservation of historic sites. The activities carried out by DIAPReM centre (University of Ferrara, Department of Architecture) can be described as follow:

1) Topographic survey by total station;
2) 3D Laser Scanner survey by time-of- flight equipment (Leica type C10);
3) Photographic documentation (Canon 650D type) and analysis of macroscopic morphologies of degradation affecting the surfaces.

In order to achieve an effective technology and methodology transfer on activities of diagnosis of the facades deterioration (towards a future complete analysis of all the surfaces of the four façades), a 30 hours seminar has taken place at the CPC of São Paulo University during which the staff of the DIAPReM centre has been teaching the methodology related to representation by database inquiring of façades and plans of the whole building and macroscopic analysis of the degradation of the surfaces and their classification.



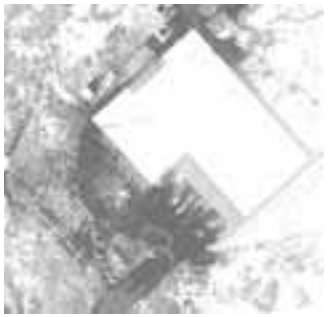
4.20_3D and diagnostic survey of “Casa de Vidro” in São Paulo, Brazil (2016)
Scientific Director: Marcello Balzani (University of Ferrara)
Project Coordinator: Luca Rossato (University of Ferrara)
Staff: Guido Galvani, Federica Maietti, Daniele Felie Sasso, Laura Abbruzzese (University of Ferrara)
In cooperation with: The Getty Foundation (USA), Istituto de Arquitetura e Urbanismo de São Carlos Universidade de São Paulo (Brazil), Instituto Lina Bo e B.M. Bardi, São Paulo (Brazil), Consorzio Futuro in Ricerca (Italy)

A precursor to her larger civic projects, the Casa de Vidro, or Glass House, in São Paulo was designed and built between 1950 and 1952 at a critical point in the architect's career. Created as a personal residence for Bo Bardi and her husband after emigrating from Italy in 1946, the house was her first completed work as an architect and as a new Brazilian citizen.
Since 1995 the Casa de Vidro has been under the stewardship of the Instituto Lina Bo e B.M. Bardi, which was established by the architect and her husband to display and promote Brazilian culture and arts. While some maintenance practices and several large renovation projects have kept the site in good condition, the Instituto recognizes the need for a preventive, scheduled maintenance plan based on specialized technical surveys to avoid an uncertain future of emergency interventions and ad hoc spot repairs. A Getty grant allowed to an international team of conservation architects, landscape conservation specialists, cultural heritage experts, and civil and structural engineers to develop a conservation management plan for the property. The project will also include a 3D topographic survey of the site in orde to identify potentially harmful structural deformations at the smallest scale.
The activities carried out by DIAPReM centre (University of Ferrara, Department of Architecture) can be described as follow:

1) Topographic survey by total station;
2) 3D Laser Scanner survey by time-of- flight equipment (Leica type C10);

In order to achieve an effective technology and methodology transfer on activities of diagnosis of the facades deterioration (towards a future complete analysis of all the surfaces of the four façades), a 30 hours seminar has taken place at the IAU in São Carlos during which the staff of the DIAPReM centre has been teaching the methodology related to representation by database inquiring.

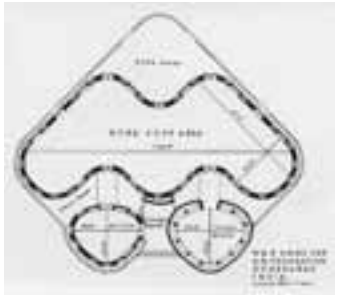


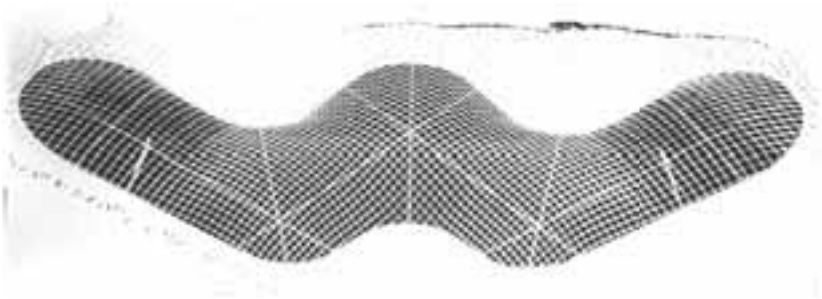



4.21_ Conservation plan for the "Vocational training workshop of the BM Institute" in Ahmedabad, India (2017)
Scientific Director: Marcello Balzani (University of Ferrara)
Project Coordinator: Luca Rossato (University of Ferrara)
Staff: Pietro Massai, Daniele Felie Sasso (University of Ferrara)
In cooperation with: The Getty Foundation (USA), Sarabhai Foundation, Ahemdabad (India), Consorzio Futuro in Ricerca (Italy)

The aim of this project is to foster international collaboration and interdisciplinary research between academic researchers in the fields of Architecture, Structural Engineering and Conservation; and to transfer the knowledge acquired to Professionals working in these fields to have an impact on existing and future projects of this type in India. The grant award has been used for: research and documentation of this unique structure, development of a conservation plan and conservation management planning (CMP), and dissemination of the project work through a report, colloquium and edited collection.
Designed by Gautam Sarabhai and constructed in 1976-77, the Vocational training workshop is a significant example of India's Modern architectural heritage. It is a pioneering structure with special scientific significance: it is the first shell built as a hybrid system that combines the lightweight `gridshell', a structural system developed at the Institute for Lightweight Structures (IL), University of Stuttgart under the guidance of Frei Otto, with a ferrocement roof, which is a type of very lightweight concrete shell. It is also an example of international collaboration on cutting edge Modern architectural design: the form was developed with engineering consultants from the Structural Engineering Research Centre, Chennai (CISR) under the Directorship of Professor G.S. Ramaswamy, and Eda Schaur from the Institute for Lightweight structures in Stuttgart with advice from Frei Otto.
The undertaken research was based on measurement of the present form of the shell using 3D Laser Scanning and photogrammetry to produce accurate drawings of the building.
Traditional survey methods were used to establish a topographic net that forms the basis for laser scanning survey and to link the TLS survey to the site as a whole. Other activityies carried out have been the nalysis of macroscopic morphologies of degradation affecting the dome surfaces; the

survey will be carried out through high definition photographic survey, which will be an essential support to draw up a comprehensive picture of the state of conservation given the amount of hard to reach areas.

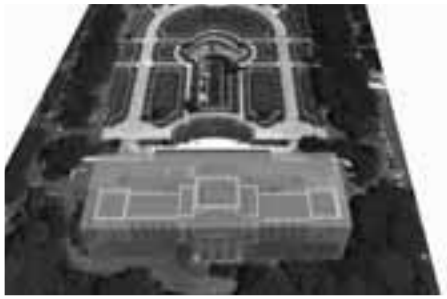


4.22_3D and diagnsotic survey of “Museu Paulista do Ipiranga,in São Paulo, Brazil (2017-2018)
Scientific Director: Marcello Balzani (University of Ferrara)
Project Coordinator: Luca Rossato (University of Ferrara)
Staff: Guido Galvani, Federica Maietti, Daniele Felie Sasso (University of Ferrara)
In cooperation with: Fundação de Apoio à Universidade de São Paulo (Brazil), Consorzio Futuro in Ricerca (Italy)

The Paulista Museum of Sao Paulo, commonly known as "Museu do Ipiranga" stands where Emperor Pedro I proclaimed the independence of Brazil near the banks of the river Ipiranga.
The building currently contains a vast collection of historically relevant furniture, documents and works of art, especially in relation to the period of the Brazilian empire.
The structure is protected as a monument according to Brazilian legislation through the Instituto do Patrimônio Histórico and Artístico Nacional - IPHAN.
Designed in eclectic style by the Italian architect Tommaso Gaudenzio Bezzi and completed in 1884, the museum was closed to the public in 2013 to allow total restoration.
In this context, the research project linked to the three-dimensional integrated scanning of the Museum involved the DIAPReM departmental center in topographic surveys, laser scanners and diagnostics on the entire building as a basis for future intervention.
Technically, the survey carried out by Total Station responds to the function of establishing the metric interface between the absolute system performed with the GPS and the detail survey performed by 3D Laser Scanner.
All the points known or generated from the topographic survey through the Total Station relate to morphological and architectural elements inside and outside the site of which a specific monograph has been drawn up. Lastly, the use of a spectrophotometer for the survey and analysis of historical pigments is worthy of note.

The working groups of the DIAPReM research center were composed of two units for the activities of integrated topographic survey, 3D laser and photogrammetric survey while for operations related to spectrophotometry by individual specialists of the research center.



4.23_3D digital documentation project and enhancement of the Monument to the Independence of Brazil in São Paulo, SP, Brazil
Scientific director: Marcello Balzani (University of Ferrara)
Project coordinator: Luca Rossato (University of Ferrara), Mariana Rolim (DPH São Paulo)
Survey manager: Guido Galvani (University of Ferrara)
Head of diagnostic analysis: Federica Maietti (University of Ferrara)
Collaborators: Guilherme Miguelin (Mackenzie University)
Project partners: Leica Geosystem (Switzerland), DPH São Paulo, Mackenzie University (Brazil) and Consorzio Futuro in Ricerca (Italy).
Period: October 2018-April 2019

The architectural object at the centre of this research proposal is the Monumento à Independência do Brasil in São Paulo, Brazil, one of the main symbols of Brazil's independence from Portugal and built in 1922. The interest in this structure is due to the fact that its designer was Manfredo Manfredi from Piacenza (1859-1927), an architect remembered for being the author of several buildings of great importance such as the tomb of Victor Emanuel II at the Pantheon, the Roman Lighthouse at the Janiculum and the Palazzo del Viminale in Rome.
The research is part of a twofold framework of interest: on the one hand the need to disseminate the work of an Italian architect through the enhancement of the architecture produced, and on the other to exploit the flywheel effect that will be created from 2019 when Brazil begins preparations for the bicentenary of independence, which will obviously see the monument itself as the object of the research.
The beginning of the investigation has seen an in-depth analysis of the historical sources already partially in the possession of the proposer of this research and of other sources found locally thanks to the help of the Circolo Emilia Romagna of São Paulo and the Associacão Cultural Emilia Romagna of Rio de Janeiro.

In a second step, the use of 3D laser scanner technology was aimed at precisely documenting, thanks to the massive amount of data generated by the instrumentation, the monument and its appurtenances. The size, the volumetric articulation of the survey rooms, the surface characteristics and the particular construction conditions have directed the survey project towards a multiple methodological integration:
1) 3D scanner survey aimed at generating a point cloud model;
2) detailed topographic survey
3) high resolution photographic survey




5_Overview: exhibitions and multimedia

5.1_ Dvd: "AS2 Architettura Sostenibile, 32 esempi digitali in dvd di edilizia residenziale, scolastica, produttiva, terziaria, ad uso collettivo", edited by M. Balzani, Maggioli publisher, Rimini (2008).
Scientific Director: Marcello Balzani (University of Ferrara)
Drawings and 3D Modelling: Alessandro Costa (University of Ferrara)
Drawings, 3D modelling and interface editing: Luca Rossato (University of Ferrara)

From the theme of the residential project, which remains a very popular experimentation and innovation universe the dvd pursues the integration with two other areas:
- the project of school buildings (nursery and primary schools) where the connections to the themes of the environment and sustainability are often very strong and where designers are able to express innovative;
- the project of collective buildings, not only both public and private, where designers highlight interesting values through the design of wine cellars (specialized structures of oenological production in the territory), and public buildings, banks and environmental centers.
The contents (elaborated by 2D and 3D techniques) help to create an interesting digital database, both for innovative inputs in terms of technological responses to energy consumption reduction, spatial articulations and architectural language choices.
The dvd was conceivedd in collaboration with the Department of Architecture of Architecture of the University of Ferrara and contains:

- 32 projects of two-dimensional buildings including elevations and sections in Autodesk Autocad 2000 and compressed DXF format;
- 32 projects of three-dimensional buildings in Nemetschek Allplan 2006, IFC, 3DS and WRML formats;
- 400 TIFF raster images at high resolution.

5.2_Exhibition: "The survey of Litta Palace in Milan", Ferrara International Restoration Fair (March 2009)
Scientific Director: Marcello Balzani (University of Ferrara)
Project Staff: Federico Ferrari, Federica Maietti, Luca Rossato, Francesco Viroli, Cristina Vanucci (University of Ferrara)

The research project on Palazzo Litta in Milan started from the willing of Minister of Cultural Activities – Regional Directions of Cultural Heritage of Lombardia, the which, in order to valorize the historic and architectural heritage, wanted to implement activities involving 3D laser Scanner campaigns
on buildings and objects. These surveys can improve the conservation and valorization of sites through a constant monitoring by a qualified staff. All the person involved in conservation issues will be tough about new technologies and approaches and this will improve the personal skills. In this framework Litta Palace (a big urban block facing Corso Magenta in the heart of Milan) was a perfect stage for many reasons: it will be the Regional Direction of Cultural Heritage Venue, it must be restored before the moving of the offices, it has not been surveyed before.
These were the motivations behind the research project involvement of capacity building and process optimization aspects and the creation of a huge multi-level data base located inside the Regional Direction offices.
The Exhibition showed the whole complex, structured in 7 main levels totalizing 514 rooms, 8 staircases and 41.500 square meters of gross surface and 6.000 of external surface.

Panels were placed in order to demonstrate the accuracy of the integrated survey, the which needed 60 working days of topographic activity with a Leica TCR 1101 the 3D laser scanner campaign by two Leica HDS 3000 took 1900 hours of elaboration, circa 570 stations and 1250 targets with a total result of 2.000.000.000 of spatial coordinates.
The exhibition material was actually global, involving the basement parts and the attics in order to define the Litta Palace volumetric and conservative complexity.





5.3_ Dvd: "Città e tessuti minori, valorizzazione tutela e conservazione, casi studio e metodologie", CD-Rom in "L'Uffcio Tecnico, n° 1 January 2009, Maggioli publisher, (2009).
Scientific Director: Marcello Balzani (University of Ferrara)
Project Coordinator: Federica Maietti (University of Ferrara)
Texts and interface editing: Luca Rossato (University of Ferrara)

The choice to examine the issue of the conservation of minor historical centers arises from the awareness of a significant diffusion of the phenomenon and the the low level of systematic studies conducted on the subject.
The Dvd shows the existence of literature analyzing small or abandoned centers through in a broader territorial examination in which the phenomenon is highlighting complex evaluations needed before working on the material consistency.
The complexity of the subject required sociological, economic and legislative backgrounds, based on the awareness that the intervention requires the simultaneous operation of technicians with multidisciplinary skills.
Each actor must in fact be able to identify the values and meanings of the built heritage and promote models of transmission after recognizing the vernacular values, the place features and materilas' stratifications of buildings made with simple techniques and poor materials.
The object of study is then identified starting from a general analysis of historical centers, going toward the investigation field and arriving at a definitions of its evolution.

In the dvd the the concept of "small historical center", expressed by the specialist literature, papers, documents, recommendations and conferences proceedings of international relevance is analyzed by an international collection of case studies able to define the framework into the which academics and professionals have to work in Eurpe, Asia and South America.

5.4_Dvd: "PAI 2010, Premio di Architettura e Ingegneria Cuneo-Savona-Imperia", a CD-Rom in "L'Uffcio Tecnico", n° 1 January 2010, Maggioli publisher and in "Paesaggio Urbano" n° 6 (2009).
Scientific Director: Marcello Balzani (University of Ferrara)
Interface editing: Luca Rossato (University of Ferrara)

Recognizing the widespread architectural quality in the area has become an ethical commitment to the categories that have been promoting, since 1995, the "Architecture and Engineering Award".
The important biennial initiative, born with the aim of improving and promoting the quality in the complex transformation of the territory, has involved since 2001 the Architects and Engineers Associations of the Province of Cuneo, Savona and Imperia, in Italy .
The Prize of Architecture and Engineering "Cuneo Savona Imperia 2010" includes many of the best works built in the three Provinces from 1 January 2004 to 31 May 2010.
The eighth edition of the Prize has marked the path, which has become increasingly interesting and participatory, towards the diffusion and recognition of architectural and landscape values in projects made within the provinces involved.
A clear demonstration of the quality achieved by the event remains the winning projects of the various categories, which in various ways affirm the ability to make architecture conscientiously and never trivially, carefully weighing budget limits and multiple possibilities that every professional has in his or her choices.
The cd-rom edited by the Architecture Department of Ferrara University has included all the elaborates of the projects that participated

into the 2009 edition with particular attention to the designers winners and mentioned in each category.
The simple interface allows the reader to get into this small tribute to the technological quality and the compositional creativity of italian professionals who have been able to translate different issues into interesting design solutions.

5.5_Dvd: "AS3 Architettura Sostenibile, 21 edifici residenziali e 9 edifici ad uso collettivo in formato digitale su dvd", edited by M. Balzani, Maggioli, Rimini (2009).
Scientific Director: Marcello Balzani (University of Ferrara)
Drawings and 3D Modelling: Alessandro Costa (University of Ferrara)
Drawings, 3D modelling and interface editing: Luca Rossato (University of Ferrara)

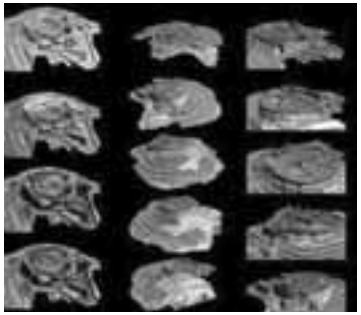
On the subject of the representation and re-reading of sustainable living in this new issue of the Sustainable Architecture series, they have been added interesting cases of collective buildings with all the Issues related to it. A Selection of Sustainable Construction Projects in G. Botsford, C. Barbieri, F. Nardi, M. De Beni, S. Cantòn, C. Thielen, P. Pelcák, D. Bianchi, A. Marcattilj , R. Grabia Costa, R. Boltshauser, M. Rauch, S. Berardi, A. Farabegoli, V. Fava, F. Fava, A. Rinaldi, R. Casarini, S. Veroni, V. Turozzi, R. Baldasso, P. Kuczia, Bohlin Cywinski Jackson, M. Marchesi, A. Battaglia, E. Kelderer, S. Dell'Agnolo, Allmann Sattler Wappner Architekten, RCR Architects, H. Bucher, P. Huttinger, to whom the projects of school buildings (Primary and Primary Schools) by A. Rina and GW Reinberg and CDM Associated Architects, Grotenbreg Architecten, P. Cabrito, I. Diniz, K. Yokogawa, Architect & Associates, M. Castelletti, F. Terunobu, O. Nobumichi.
Examples were selected to better understand the complexity of the project and case histories (also reported on a useful digital media in cad 2D and 3D) contribute to forming a vision of the theme of sustainability through the highlighting of technologies for reducing energy consumption, spatial articulations, language choices Architectural and finishing, as well as the ability to relate coherently to a territorial reality in which the designer often find constraints and limitations in terms of spatial, economic, and functional resources.

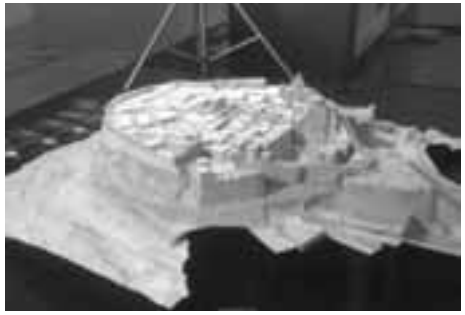
The Dvd was conceive in collaboration with the Department of Architecture of the University and it contains:
-30 projects in 2D of buildings including elevation and sections in Autodesk Autocad 2000 format and compressed DXF format
-30 projects in 3D of buildings in Nemetschek Allplan 2008, IFC, 3DS, WRML and PDF3D
-300 raster images extracted from templates In high-resolution TIFF format

5.6_Exhibition: "The citadel of Gozo, panels and physical wooden model", Ferrara International Restoration Fair (March 2010)
Scientific Director: Marcello Balzani (University of Ferrara)
Project Staff: Federico Ferrari, Federica Maietti, Luca Rossato, Francesco Viroli (University of Ferrara)

The exhibition main aim was to describe the adopted methodology for this survey projet.
The displayed panels showed that morphologies of degradation were divided into five categories: physical-chemical, chemical, due to environmental conditions, biological, anthropic and structural degradation. The morphologies of degradation observed in situ were represented, in the form of false colors, on orthophoto maps of each front and floor.
The 3D model was available on a big screen to let the visitors understand that every degradation had been associated to a code corresponding to the name of the layer of the cad files.
Beyond the primary documentation, the main goal of the high-definition three-dimensional survey, is to develop a virtual model able to identify the geometry and morphology of each element of the fortifications.
This possibility is useful in order to obtain accurate two-dimensional representations able to define a technical and scientific basis for the restoration project.
The virtual reconstruction was realized with a hybrid modeling for the purpose of representing the different geometries located in different contexts, built architectures, the outcrops and the environment.
Architectural geometries (Citadel and walls) are represented by solid modeling techniques, while context and rocky outcrops have been processed directly from the laser scanner data, as a triangulated mesh.

Two different levels of decimations are used: higher level for the rocks, and a lower one for the outcrops, in order to recreate the exact morphology of the second ones.
The model can be used for many different applications depending of the need.
Evenctually a big model (1.5m x 1.5 m) was carved in a wooden block by automatic machine and displayed as well in the pavilion.



5.7_Dvd: "Progetti per l'abitare 26 edifici contemporanei in dvd di tipologia monofamiliare, bifamiliare e plurifamiliare, edited by M. Balzani, Maggioli publisher, Rimini. (2010)
Scientific Director: Marcello Balzani (University of Ferrara)
Drawings and 3D Modelling: Alessandro Costa (University of Ferrara)
Drawings, 3D modelling and interface editing: Luca Rossato (University of Ferrara)

The concept of environmental sustainability applied to the design of contemporary housing has become more and more common among Italian designers in recent years thanks to the dissemination of high level ideas and projects built in the rest of Europe.
The Dvd is a new issue, revised in graphics and content of the series "Architettura Sostenibile". It has been sought to develop a contemporary conception of the housing, through the search for the integration of technological innovation with a design that can relate to current housing needs by elaborating different models.
A number of projects were selected among the most recent residential built projects. Through new accurately selected and reported case studies on digital media in 2D and 3D format, the authors tried to deepen this field of experimentation and reinterpretation of the residence by providing a critical vision and coherent reading of the single project.
The Dvd contains:
- 26 building projects in 3D in Nemetschek Allplan 2009 and Cinema 4D 2010, IFC, 3DS and WRML formats;
- 26 projects in 2D including elevations and sections in Autodesk Autocad 2000 format and compressed DXF format;

- Over 200 raster images extracted from high-resolution TIFF format models.

5.8_Exhibition: "Domus international prize for conservation and restoration Fassa Bortolo", Ferrara International Restoration Fair (from 2011 to 2018)

Scientific Director: Luca Rossato (University of Ferrara)

Project Staff: Lea Calabrese, Pietro Massai, Cristina Vanucci, Francesco Viroli, Laura Abbruzzese (University of Ferrara)

For many years, the Department of Architecture of the University of Ferrara has developed initiatives for education and the exchange of design ideas, including the prestigious "Fassa Bortolo International Prize for Sustainable Architecture". These activities also include the International "Domus Restoration and Preservation Prize", the sector's fi rst initiative aimed at focussing the attention of a wide public on architectural restoration projects which have sensitively interpreted the principles of conservative restoration recognised by the scientific community, in some cases using contemporary forms of expression.

Conceived and promoted by the Ferrara University in collaboration with with Fassa Bortolo, the Prize also aims to acknowledge the fundamental importance of companies working in the restoration field by recognising private and public sector designers and the restoration companies responsible for carrying out the work.

The Prize is aimed not just at designers, but also at the specialist companies carrying out the restoration in recognition of the important role played by business skills in the sector.

The Prize organisers also undertake to promote the results and publicise the projects selected and presented through the widest possible spectrum of conferences and editorial initiatives to confirm the importance of debate and the exchange of ideas and methods.The award, sponsored by Fassa Bortolo and by the Architecture Department of Ferrara, is chaired by the Director of the University of Rome's "School of Specialisation in Architectural

Heritage and Landscape", Professor Giovanni Carbonara, and made up of exponents of the academic world and of the Minister for Cultural Heritage and Activities.
The exhibited selection rewards the projects which best interpreted the principles of preservation according to a clear and scientific method, as well as being coherent with the current trends of restoration.
All the entries are displayed in a 130 sqm space within the fair main building.
The Award involves every year almost100 designers coming from all over the world and consisted of professionals in the "Built Projects" section and young graduates for the degree, Post graduate or specialisation "thesis' section".



5.9_Cd-rom: "Il Premio Sostenibilità 2011, progetti in concorso", CD-Rom in "L'Uffcio Tecnico", n° 12 December 2011, Maggioli publisher (2011).
Scientific Director: Marcello Balzani (University of Ferrara)
Interface editing: Luca Rossato (University of Ferrara)

The "Sustainability" award, established by the Agency for Energy and Sustainable Development and coordinated by Bioecolab, now at its fourth year, aims at promoting and disseminating architectural best practices through the selection and valorisation of achievements and projects that have followed the design principles of green architecture and sustainable urbanism.
The competition is open to new interventions, to requalifiacation projects, to private as well as to public interventions, divided into three categories: new buildings, building renovations and / or restoration and urban projects realized in Italy in the last five years.
The 2011 qualified jury has chosen to award a First Prize, for the category of New Buildings, to Andrea Oliva and David Zilioli for their residential bioclimatic building in Bagnolo, Reggio Emilia.
Within the same project category but for non-residential buildings, the jury has retained worthy of the First Prize the nursery of the JRC European Commission in Ispra, Varese, designed by Politecnica Ingegneria e Architettura.
Among the works of non-residential new buildings, two special mentions went to Studiobiòs Associates and Studio Gatti for their Greenlab-laboratorio research and development center in Sassuolo, Modena, and to Luciano Cupelloni Architecture Studio for his Elsa Morante Cultural Center in Rome.
As far as the category of rehabilitation and / or restoration is concerned, the First Prize was awarded to the project of LA Studio Lubian Architettura.
In this same category, a special mention went to Laboratorio di Architettura Architetti Associati and Studio Lampanti for the building called Brennone21 in Reggio Emilia, a zero-carbon recovery.
The third category in the competition was Urban Planning. In this category the first prize was awarded to the Zona Clima in Brunico project of Stefan Hitthaler, Laboratorio di Architettura, 2DKS, EM2 ARCHITEKTEN.
The Dvd interface allows to navigate through the different sections and examine the project drawing and images of the built work.
It is also possible to download the text materials provided by the professionals.

5.10_Exhibition: “Oscar Niemeyer”, Ferrara International Restoration Fair (March 2013)
Scientific Director: Denise Araujo Azevedo (University of Ferrara)
Project Coordinators: Federico Ferrari, Luca Rossato, Francesco Viroli (University of Ferrara)

Oscar Niemeyer, the Brazilian architect who helped to shape the 20th century and mankind's vision of the future, died on 5 Decemebre 2012. Aged 104, Niemeyer died in Rio de Janeiro, the city where he was born in 1907, studied architecture and that he helped to shape with famous landmarks, such as the Sambadrome, notoriously modelled - like much of his work - on the body of a woman.
Overseas, he designed the United Nations secretariat in New York, the Communist party headquarters in Paris and Serpentine gallery summer pavilion in Hyde Park, London.
Niemeyer was hugely influential with his designs of buildings and urban landscapes from the 1930s onwards. Much of his work still looks futuristic today.
This exhibition was set up in cooperation with the Niemeyer Foundation in Rio de Janeiro and Escola da Cidade in Sao Paulo to celebrate Oscar life and work.
The 30 panels described the work of one of the pioneers of modernist architecture.
In works from Brasília's crown-shaped cathedral to the undulating French Communist party building in Paris, Niemeyer shunned the steel-box structures of many modernist architects, finding inspiration in nature's crescents and spirals. His hallmarks include much of the UN complex in New York and the Museum of Modern Art in Niterói, which is perched like a flying saucer across Guanabara Bay from Rio de Janeiro.
Niemeyer designed most of the city's important buildings avant-garde architect Lucio Costa crafted its distinctive aeroplane-like layout.
The exhibition told visitors that after a 1964 coup plunged Brazil into a 21-year military dictatorship, Niemeyer, a lifelong communist, decided to spend more time in Europe. While living in France in 1965, he designed the headquarters of the French Communist party. During the dictatorship he also designed the centre of the Mondadori in Italy, Constantine University in Algeria and other projects in Israel, Lebanon, Germany and Portugal.

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2005

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7_Awards, comptetion winner and commission member

- Winner of the national competition for grant researcher position at University of Ferrara, Department of Architecture (2008).

- Winner of the national competition for research fellow position at University of Ferrara, Department of Architecture (2009).

- Winner of “Young researcher” competition at University of Ferrara. Research title: Research project for the conservation and enhancement of Indian cultural heritage in Rajasthan and Gujarat, India. Grant: 5.000 euro. (2011).

- Winner of international completion for Phd programme at University of Ferrara, Department of Architecture. Grant: 36.600 euro (2013).

- Winner of “Young researcher” competition at University of Ferrara. Research title: “The modern Arhitecture in Brazil, the study of drawings and projects for the conservation and enhancement of cultural heritage”. Grant: 4.970 euro. (2014).

- Member of the commission for Double Degree joint programme in Architecture between the University of Ferrara and PUCPR in Curitiba, Brazil (from 2014)

- Winner of “Study abroad” competition at IUSS Ferrara, University of Ferrara. Research title: “Pilot project for preservation and enhancement through a 3D survey of the University of Sao Paulo Architecture Faculty main building”. Grant: 1.000 euro. (2015).

- Winner of “Study abroad” competition at IUSS Ferrara, University of Ferrara. Research title: “Applied research for feasibility study concerning the use of conservation methodologies and processes on the Casa de Vidro building in São Paulo, Brazil”. Grant: 1.000 euro. (2016).

- Winner of national competition for full time researcher position at University of Ferrara, Department of Architecture (2019).

- Awarded Honourable mention as PhD co-supervisor of the thesis “Parametrical Analysis of Eladio Dieste’s Gaussian Vaults” in the CAPES Theses Prize of 2021, the most prestigious doctoral award in Brazil, for PhD research work (2021).

- Academic Board Member of the international PhD programme IDAUP by University of Ferrara (home institution) and Polis University, Tirana (Albania), University do Minho, Guimaraes (Portugal), Slovak University of Technology / Institute of Management, Bratislava (Slovakia), University of Portsmouth / S.O.A. (UK) and Lawrence Technological University / CAD, Southfield, MI (USA) as associates members (2021).

8_Spoken languages

- Italian mother tongue
- Very good knowledge of English, listening, speaking and writing (C1 Level – CAE Certificate, 2016).
- Very good knowledge of Portugues, listening, speaking and writing (C1 Level – CELPE Certificate, 2004).
- Basic knowledge of Spanish, listening, speaking and writing (A2 Level).
- Basic knowledge of Franch, listening, speaking and writing (A1 Level).

9_Informatic knowledge

- Very good knowledge of OS Windows and OS Macintosh.
- Very good knowledge of Microsoft Office (Excel, Word, Power Point).
- Very good knowledge of vector software such as: Autocad 2023, Revit 2023, Rhinoceros 7.0, SketchUp pro 2021, Fusion360
- Very good knowledge of graphic software Adobe Photoshop CS6.
- Very good knowledge of editing and paging software: Adobe InDesign CS6 and Flash CS6.
- Good knowledge of Cyclon Leica 9.2.
- Good knowledge of Cloud Compare.