



Curriculum Vitae

Date of Birth: 05/10/1948

Nationality: Italian

Education: 10/11/1971 Master in Architecture – Polytechnic University of Turin (Italy)

Membership of Professional Associations:

05/02/1973 Council of Architects, Planners, Landscapers and Conservatories of Turin (Italy), n. 806

Countries of Work Experience: Italy, U.S.A, E.U..

Languages:

	speaking	reading	writing
Italian (first language)	native	native	native
English	very good	very good	very good
French	fair	fair	fair

EMPLOYMENT/ROLE RECORD

From: 1972 To: 1974

Employer: Ministry of Education, Italy

Positions held: - Teacher at Technical High Schools

From: 1973 To: 1986

Employer: self employer

Positions held: Architect

From: 1974 To: 1980

Employer: Polytechnic University of Turin

Positions held: Junior Assistant

From: 1980 To: 1988

Employer: Polytechnic University of Turin

Positions held: Senior Researcher

From: 1988 To: 1990

Employer: Lawrence Berkeley Laboratory, UCB; Berkeley, CA, USA.

Positions held: Visiting Scientist

From: 1990 To: 1991

Employer: Daniel Lieberman and Associates, Berkeley, CA, USA.

Positions held: Bioclimatic Designer

From: 1991 To: 1992

Employer: Eley and Associates, San Francisco, CA, USA

Positions held: Energy Efficiency Consultant

From: 1992 To: 1998
Employer: Polytechnic University of Turin
Positions held: Senior Scientist

From: 1998 To: today
Employer: Polytechnic University of Turin
Positions held: Associate Professor

From: 2008 To: 2009
Employer: Saint John International University, NH, USA
Positions held: Dean of Academic Affairs/Interim Provost

From: 2007 To: 2010
Employer: Polytechnic University of Turin
Positions held: Coordinator of the Inter-Universities *Degree Programme in Garden, Parks, and Landscape Design* (Polytechnic University of Turin, University of Turin)

From: 2010 To: 2012
Employer: Polytechnic University of Turin
Positions held: Coordinator of the Inter-Universities *Degree Programme in Landscape Design* (Polytechnic University of Turin, University of Turin, University of Milan, University of Genoa)

From: 2014 To: today
Employer: Polytechnic University of Turin
Positions held: Scientific Responsible of the Laboratory *Systems for Technology Innovation (STI)* of the Department of Architecture and Design

From: 1994 To: today
Self Employer: MGEA
Positions held: Environmental and Buildings Energy Efficiency Consultant

TEACHING ACTIVITY

Have taught and teaches at the School of Architecture, Polytechnic University of Turin, for all degree levels (undergraduate, graduate, postgraduate, Ph.D) the following courses: *Environmental Technological Design, Sustainable Design of Building-HVAC systems, Architectural Technology, Environmental Design, Building Construction Studio, Technologies for Building and Environmental Hygiene, Environmental Technology and Technology Innovation Studios, Environmental Technology for Territorial Planning, Methodology of Applied Research on Technology.*

Taught at the School of Environmental Architecture, Polytechnic University of Milan:
Building Physics, Environmental Urban Design; Architectural Technology.

Have held and holds **lectures, conferences, seminars, workshops** at other Universities, both National and International (Architectural Association of London, UK, University of California at Berkeley, CA, USA, Polytechnic University of Tirana, Albania, Tsinghua University, Pechino) and for private Institutions since 1994 on the following subjects: *bioclimatic design, urban and building energy efficiency, passive cooling and natural ventilation, and sustainability evaluation in building construction.*

He was appointed as a **Member of an International Committee** for the final discussion and evaluation of PhD students at the following University:
University of Architecture and Urbanism "Ion Mincu", Bucarest, Romania, September 21, 2012.
Ecole Nationale Supérieure d'Architecture de Marseille, Soutenance de thèse, December 12, 2012

MAIN RESEARCH ACTIVITIES

<p>RESEARCHER:</p> <p>- FEASIBILITY STUDY</p>	<p>Sardinia 2010 – for a society based on renewable energies</p> <p>Year: 1978</p> <p>Location: Sardinia, Italy</p> <p>Funding: Region of Sardinia</p> <p>Main project feature:</p> <ul style="list-style-type: none"> - long-term strategy for a low environmental impact regional development <p>Positions held:</p> <ul style="list-style-type: none"> - Researcher <p>Activities performed:</p> <ul style="list-style-type: none"> - analysis of energy demand - assessment of renewable energy sources (solar thermal, wind, biogas from poultry organic waste)
<p>RESEARCHER:</p> <p>- FEASIBILITY STUDY</p>	<p>Integration of solar energy in School buildings</p> <p>Year: 1979</p> <p>Location: Rome, Italy</p> <p>Funding: Italian Ministry of Education</p> <p>Main project feature:</p> <ul style="list-style-type: none"> - Typological and technological study on the potentiality for the integration of solar energy in School buildings <p>Positions held:</p> <ul style="list-style-type: none"> - Researcher <p>Activities performed:</p> <ul style="list-style-type: none"> - analysis of school buildings space requirements by regulations - compared assessment of thermal solar systems - critical issues on system/envelope integration
<p>RESEARCHER:</p> <p>- FEASIBILITY STUDY</p> <p>- LITERATURE REVIEW</p> <p>- STRATEGIC PLANNING</p>	<p>Finalised Energy Project</p> <p>Year: 1978-81</p> <p>Location: Italy</p> <p>Funding: Council of National Research (CNR)</p> <p>Main project feature:</p> <ul style="list-style-type: none"> - evaluation of the potentiality for a new windows industry development in the framework of energy saving national strategy <p>Positions held:</p> <ul style="list-style-type: none"> - Researcher <p>Activities performed:</p> <ul style="list-style-type: none"> - literature review on energy saving standards - study on the optimisation of energy performance of windows - study on the conditions for a reforming of the metal windows industrial sector within the framework of energy cost increase in Italy

<p>REASERCHER CO-ORDINATOR:</p> <ul style="list-style-type: none"> - RESEARCH DEVELOPMENT 	<p>Energy and environmental integration of Pantelleria Island</p> <p>Year: 1979</p> <p>Location: Pantelleria (Sicily, Italy)</p> <p>Funding: Council of National Research (CNR)</p> <p>Main project feature:</p> <ul style="list-style-type: none"> - development of an alternative energy strategy for the island territory <p>Positions held:</p> <ul style="list-style-type: none"> - Research co-ordinator <p>Activities performed:</p> <ul style="list-style-type: none"> - leading survey activities on energy consumption patterns among inhabitants - developing guidelines for a potential alternative energy model
<p>SCIENTIFIC RESPONSIBLE:</p> <ul style="list-style-type: none"> - RESEARCH PLANNING - FIELD TEST PLANNING - RESULTS ASSESSMENT 	<p>Experimental testing of a windows draught elimination technique in a School existing building</p> <p>Year: 1980-81</p> <p>Location: Turin, Piedmont (Italy)</p> <p>Funding: A.P.R.E.- Jacorossi S.p.A.</p> <p>Main project feature:</p> <ul style="list-style-type: none"> - showing feasibility and energy saving performance of a joint-sealant-based technique for eliminating air infiltration through windows frames in existing aged buildings <p>Positions held:</p> <ul style="list-style-type: none"> - Research-testing co-ordinator <p>Activities performed:</p> <ul style="list-style-type: none"> - directing survey of air leakage through windows - preparing bidding documents for the intervention - co-ordinating application activity by a UK draught-elimination specialised firm - co-ordinating recording of energy consumption data pre- and post-intervention - analysis of results on energy savings

<p>RESEARCHER</p> <p>CO-ORDINATOR:</p> <p>- PROJECT PLANNING</p> <p>- CONTEXT ANALYSIS</p> <p>- PERFORMANCE EVALUATION</p>	<p>Design and construction of low-energy solar multi-storey residential buildings</p> <p>Year: 1981-83</p> <p>Location: Piedmont, Italy</p> <p>Funding: European Commission (EC) – II JOULE Programme</p> <p>Main project feature:</p> <ul style="list-style-type: none"> - evaluation of the potentiality for the integration of solar air collectors, passive systems (Trombe Walls and Sun spaces), and increased insulation (above national standards) in the envelop of 17 multi-storey residential buildings compounds including 480 dwellings <p>Positions held:</p> <ul style="list-style-type: none"> - Researcher, co-ordinator <p>Activities performed:</p> <ul style="list-style-type: none"> - context analysis of local climate and winter solstice cast shadowing - study on the energy optimisation of systems' location on the envelop - estimate of the expected energy savings - writing of reports and papers for International Conferences
<p>REASERCHER</p> <p>SCIENTIFIC RESPONSIBLE:</p> <p>- METHODOLOGY DEVELOPMENT</p>	<p>Calculation procedures for solar radiation assessment in mountain territories</p> <p>Year: 1983-86</p> <p>Location: Turin County, Piedmont, Italy</p> <p>Funding: Centre for Information Services, Piedmont Region</p> <p>Main project feature:</p> <ul style="list-style-type: none"> - development of a calculation method for assessing solar radiation distribution on a 50x50 m-cell grid based on a 3-D orographic representation <p>Positions held:</p> <ul style="list-style-type: none"> - Researcher and co-ordinator <p>Activities performed:</p> <ul style="list-style-type: none"> - leading mapping activities on a sample valley - co-ordinating the development of a method for calculating 3-D solar radiation distribution on the sample mountain territory - analysis and publishing of results

<p>RESEARCHER:</p> <p>- METHODOLOGY DEVELOPMENT</p>	<p>Simplified method for the calculation of shadows cast by a built compound</p> <p>Year: 1984</p> <p>Location: Lombardia</p> <p>Funding: Consortium of Social Housing of the Region Lombardia</p> <p>Main project feature: - envelop performance evaluation of the energy saving retrofit of existing social housing buildings</p> <p>Positions held: - Researcher</p> <p>Activities performed: - development of a new simplified method for calculating solar shadows cast on a building envelop from surrounding obstacles</p>
<p>RESEARCHER</p> <p>VISITING SCIENTIST:</p> <p>- THEORETICAL STUDY</p> <p>- LITERATURE REVIEW</p> <p>- SOFTWARE DEVELOPMENT</p>	<p>Conjunction Of Multizone Infiltration Specialist (COMIS)</p> <p>Year: 1988-90</p> <p>Location: Lawrence Berkeley Laboratory, University of California, Berkeley, CA, U.S.A.</p> <p>Funding: Council of National Research (CNR) – Bi-lateral Italy-U.S.A. Programme</p> <p>Main project feature: - Modelling air infiltration and ventilation in multizone buildings within a panel of International Experts</p> <p>Positions held: - Visiting Scientist</p> <p>Activities performed: - literature review on wind tunnel tests related to wind pressure distribution on the building envelop - wind pressure distribution tests on a sample building - wind tunnel measurements of the wind pressure distribution on a scale-model of the sample building - development of a modular calculation program on Fortran 77 regarding wind pressure distribution on the envelop of a rectangular-shaped building (CpCalc), based on a parametric analysis of the results of above mentioned activities - report and user-guide writing for A.I.V.C. (Air Infiltration and Ventilation Centre) - writing a detailed paper on <i>Energy and Buildings</i> (1992)</p>

<p>RESEARCHER CO-ORDINATOR</p> <ul style="list-style-type: none"> - RESEARCH PLANNING - TEST PLANNING - RESULTS ASSESSMENT - SOFTWARE DEVELOPMENT 	<p>Passive cooling of buildings (PASCOOL): effects of wind dynamics</p> <p>Year: 1992-95</p> <p>Location: Turin (IT), Athens (GR), La Rochelle (FR), Lisbon (PT), London (UK), Lausanne (CH), Amsterdam (NL)</p> <p>Funding: European Commission – DG XII – II JOULE Programme</p> <p>Main project feature:</p> <ul style="list-style-type: none"> - upgrading of the programme CpCalc to include wind pressure distribution on sloped roofs as well as its integration as a module of the PASCOOL model <p>Positions held:</p> <ul style="list-style-type: none"> - Researcher and testing co-ordinator <p>Activities performed:</p> <ul style="list-style-type: none"> - planning the wind tunnel testing on scale models with varying tilted roofs, carried out in Lisbon INETI's facility (National Laboratory of Civil and Industrial Engineering) - statistical analysis of wind tunnel test results to develop parametric modules on wind pressure distribution on tilted roofs to be integrated in CpCalc - development of a new version of CpCalc (CpCalc⁺), including the above-mentioned modules as well as a new user-friendly interface on visual basic - interaction with the project working groups on climate, model development, passive cooling techniques, field measurements, design guidelines) - writing research reports, programme user guide, and papers for International Journals and Conferences
<p>RESEARCH DIRECTOR</p> <ul style="list-style-type: none"> - METHODOLOGY DEVELOPMENT - CO-ORDINATION OF TESTING, SIMULATION, AND RESULTS ASSESSMENT 	<p>PRECis: assessing the Potential for Renewable Energies in Cities</p> <p>Year: 1998-00</p> <p>Location: Turin (IT), Cambridge (UK), Trondheim (NO), Fribourg (CH), Athens (GR)</p> <p>Funding: European Commission – DG XII – III JOULE Programme</p> <p>Main project feature:</p> <ul style="list-style-type: none"> - modelling the effect of urban morphology on the cooling potential of wind-driven natural ventilation within the framework of a method to assess urban form parameters Vs. climate factors (daylighting, solar radiation, surface temperature) <p>Positions held:</p> <ul style="list-style-type: none"> - Research Director <p>Activities performed:</p> <ul style="list-style-type: none"> - selection of a sample urban area in the Municipality of Grugliasco (Turin) - microclimate analysis of the urban context - definition of a synthetic parameter (aerodynamic urban resistance), representing the effect of urban forms on the potentiality of natural ventilation in buildings, and development of a simplified calculation method in collaboration with CFD-Norway - application of the above-mentioned method to generic urban forms as well as

	<p>to layout configurations of the urban sample area</p> <ul style="list-style-type: none"> - Parametric analysis on the evaluation of the effect of urban forms on the potential energy cooling load reduction due to wind-driven natural ventilation for various European climates, using the thermal simulation dynamic model ESP-r - Development of a simplified procedure – VenUS (Ventilation Urban Score) – for the assessment of the potential wind-driven cooling effect in relation to varying urban forms - outline of a reference scheme for introducing in urban planning and building codes standards supporting the use of renewable energies in buildings
<p>RESPONSIBLE OF LOCAL RESEARCH UNIT</p> <ul style="list-style-type: none"> - METHODOLOGY AND DEVELOPMENT - CO-ORDINATION OF ANALYSES AND RESULTS ASSESSMENT 	<p>Strategies for the promotion of recycling practice in architecture</p> <p>Year: 2000-2002</p> <p>Location: Naples, Turin, Milan, Florence, Venice</p> <p>Funding: Ministry of Research, Technological Development, and Higher Education – Research Projects of National Interest</p> <p>Main project feature:</p> <ul style="list-style-type: none"> - Evaluation of the ecocompatibility of materials derived from the demolition of buildings <p>Positions held:</p> <ul style="list-style-type: none"> - Responsible of the Research Unit from the Polytechnic University of Turin <p>Activities performed:</p> <ul style="list-style-type: none"> - State-of-the-Art of C&D waste and their treatments - Analysis of the C&D waste production in Italy and Europe - Selection of a case study building to be demolished using a selective approach - Analysis of the process of selective demolishment of the case study bulding - Scenario of reuse and recycling of the C&D waste from the case study - Guidelines for selective demolishment and C&D waste reuse&recycling
<p>RESPONSIBLE OF LOCAL RESEARCH UNIT</p> <ul style="list-style-type: none"> - METHODOLOGY AND EVALUATION TOOL DEVELOPMENT - CO-ORDINATION OF ANALYSES, SIMULATION, AND RESULTS ASSESSMENT 	<p>Environmental compatibility in requalification projects of brown fields</p> <p>Year: 2004-2007</p> <p>Location: Naples, Turin, Rome, Milan, Florence .</p> <p>Funding: Ministry of Research and Education – Research Projects of National Interest</p> <p>Main project feature:</p> <ul style="list-style-type: none"> - Ecocompatibility evaluation of the technological system in requalification projects of brown fields: recyclability of abandoned construction systems and applicability of new systems <p>Positions held:</p> <ul style="list-style-type: none"> - Responsible of the Research Unit from the Polytechnic University of Turin <p>Activities performed:</p> <ul style="list-style-type: none"> - State-of-the-Art of requalification projects of brown fields - Analysis of the technological building systems and materials from abandoned

	<p>industrial areas</p> <ul style="list-style-type: none"> - Selection of case study brown fields requalification projects in Turin from the 2006 Winter Olympic Games Programme - Development of a repertoire of technological systems and materials to be used in brown fields requalification projects - Development of an evaluation tool for selection of eco-compatible building material for brown fields requalification projects
<p>PROJECT SCIENTIFIC DIRECTOR</p> <p>LOCAL RESEARCH COORDINATOR</p> <ul style="list-style-type: none"> - METHODOLOGY AND EVALUATION TOOL DEVELOPMENT - CO-ORDINATION OF ANALYSES, SIMULATION, AND RESULTS ASSESSMENT 	<p>PRIME³ : Innovative procedures for energy-efficient and eco-compatible building modules</p> <p>Year: 2011-2013</p> <p>Location: Rome, Turin, Perugia, Prato (Florence).</p> <p>Funding: Ministry of Environment – Call for proposals on projects of energy efficiency and use of renewable energy sources in urban areas</p> <p>Main project feature:</p> <ul style="list-style-type: none"> - Design, development, and testing of a pre-fabricated building prototype including energy efficient and eco-compatible materials and technical systems <p>Positions held:</p> <ul style="list-style-type: none"> - Project Scientific Director and Responsible of the Research Unit from the Polytechnic University of Turin <p>Activities performed:</p> <ul style="list-style-type: none"> - State-of-the-Art of energy efficiency and eco-compatibility in buildings - Analysis, configuration, and testing of a Hybrid Natural Ventilation Air Conditioning Wall - Analysis and tests programming of an envelope system including insulation elements made of recycled materials from the textile and tire industry - Energy analysis and simulation of the building prototype - Analysis and planning of the ICT climate control system - General scientific co-ordination and results evaluation

MAIN CONSULTANCY ACTIVITIES

Detailed Tasks	Work Undertaken
<p>CONSULTANT:</p> <ul style="list-style-type: none"> - ENERGY EFFICIENCY, COMFORT, ENVIRONMENTAL IMPACT 	<p>Feasibility study for refurbishment and conversion of Anquetil Building into an Eco-Building</p> <p>Year: 2013-14</p> <p>Location: Turin (Italy), Port Louis (Mauritius Island)</p> <p>Client: Design Forum Ltd, Quatre-Bornes, Mauritius Island</p> <p>Main project features:</p> <ul style="list-style-type: none"> - functional and environmental survey of existing conditions of the building and its services - analysis of local climate - energy and environmental assessment of demolition/reconstruction and refurbishment options - life cycle assessment of materials <p>Positions held:</p> <ul style="list-style-type: none"> - Eco-building consultant <p>Activities performed:</p> <ul style="list-style-type: none"> - Local climate analysis with focus on solar radiation and wind environment - Development of survey/analysis/evaluation (SAE) cards based on BE²AMS (Building Environmental and Energy Auditing Management System) method - Energy efficiency assessment of refurbishment options
<p>CONSULTANT:</p> <ul style="list-style-type: none"> - ENVIRONMENTAL ASSESSMENT OF DESIGN CHOICES 	<p>Environmental assessment in the design development of a building complex for the Mauritius Oceanography Institute</p> <p>Year: 2012-13</p> <p>Location: Turin (Italy), Mauritius Island</p> <p>Client: STEGET S.r.l., Turin</p> <p>Main project features:</p> <ul style="list-style-type: none"> - environmental friendly and energy efficient design - context and local climate-responsive technologies - landscape design of external site - functional and technological optimisation of Laboratory spaces <p>Positions held:</p> <ul style="list-style-type: none"> - Design staff consultant <p>Activities performed:</p> <ul style="list-style-type: none"> - Local climate analysis with focus on wind environment - Environmental assessment of preliminary design choices - Configuration and assessment of passive climate-control technical systems

<p>CONSULTANT:</p> <ul style="list-style-type: none"> - ENVIRONMENTAL ASSESSMENT OF DESIGN CHOICES - ENERGY DYNAMICS SIMULATION - ENERGY CONSERVATION MANAGEMENT - ENERGY GENERATORS ASSESSMENT - PROCEDURE TO OBTAIN ENERGY EFFICIENCY CERTIFICATES (WHITE CERTIFICATES) 	<p>Design Development and Energy Conservation Management of the MooM Hotels Complex</p> <p>Year:2006-today</p> <p>Location: Olgiate Olona (VA), Italy</p> <p>Client: MooM Hotels S.p.A.</p> <p>Main project features:</p> <ul style="list-style-type: none"> - environmental friendly and energy efficient design - Electricity/Heating/Cooling three-generation through gas-fuelled micro-turbines and absorption chillers <p>Positions held:</p> <ul style="list-style-type: none"> - Consultancy Staff Leader - Energy Efficiency Analyst - Technology Supervisor - Responsible for Energy Conservation Management <p>Activities performed:</p> <ul style="list-style-type: none"> - Energy and environmental support to the architectural and interior designer - Environmental assessment of technologies selection - Energy Dynamics Simulation - Co-ordination of the interaction between architectural conceptual design and services engineering - Supervision of the three-generation energy system running - Preparation of procedure and testing for acquiring Energy Efficiency Certificates
<p>TEAM MEMBER</p> <p>(GROUP LEADER: ARTECH STUDIO, TURIN)</p> <ul style="list-style-type: none"> - ENVIRONMENTAL ASSESSMENT OF DESIGN CHOICES - HYBRID AND PASSIVE SYSTEM CONCEPTS FOR COOLING AND VENTILATION - EMBODIED ENERGY CALCULATION 	<p>Design Competition for the realisation of Service Buildings in the site of Milan's EXPO 2015</p> <p>Year: 2012</p> <p>Location: Milan, Italy</p> <p>Client: EXPO 2015 Milan</p> <p>Main project features:</p> <ul style="list-style-type: none"> - environmental friendly and energy efficient design - low cost and easy-to-be-dismantled construction - use of natural climate sources for energy systems <p>Positions held:</p> <ul style="list-style-type: none"> - Environmental assessment coordinator - Technology concept designer <p>Activities performed:</p> <ul style="list-style-type: none"> - Calculation of embodied energy of all material and building elements - Conceptual design of the hybrid ventilation system with earth-heat-exchange horizontal air ducts

<p>CONSULTANT</p> <ul style="list-style-type: none"> - TECHNOLOGICAL ASPECTS - ENERGY EFFICIENCY - ENVIRONMENTAL SUSTAINABILITY 	<p>Preliminary Design of the Town Hall Building for the Municipality of Grugliasco (Turin)</p> <p>Year: 2011</p> <p>Location: Grugliasco (Turin), Italy</p> <p>Client: ARTECH Studio, Turin</p> <p>Main project features:</p> <ul style="list-style-type: none"> - eco-compatible building - controlled natural ventilation technique <p>- Positions held:</p> <ul style="list-style-type: none"> - technological and sustainability consultant <p>Activities performed:</p> <ul style="list-style-type: none"> - site-climate analysis - description of eco-compatible technological systems - energy performance assessment
<p>CONSULTANT</p> <ul style="list-style-type: none"> - TECHNOLOGICAL ASPECTS - ENERGY EFFICIENCY - ENVIRONMENTAL SUSTAINABILITY 	<p>Refurbishment design of the Municipality library building in Grugliasco (Turin)</p> <p>Year: 2010</p> <p>Location: Grugliasco (Turin), Italy</p> <p>Client: ARTECH Studio, Turin</p> <p>Main project features:</p> <ul style="list-style-type: none"> - eco-compatible building - controlled natural ventilation technique <p>- Positions held:</p> <ul style="list-style-type: none"> - technological and sustainability consultant <p>Activities performed:</p> <ul style="list-style-type: none"> - site-climate analysis - description of controlled natural ventilation and passive cooling systems - energy analysis - environmental impact assessment
<p>TEAM MEMBER</p> <p>(GROUP LEADER: ARCH. MARIA IRENE CARDILLO, ROME):</p> <ul style="list-style-type: none"> - BIOCLIMATIC DESIGN - HYBRID AND PASSIVE SYSTEM CONCEPTS FOR HEATING COOLING AND VENTILATION - CHIMNEY EXHAUST 	<p>Design Competition for the renovation of an abandoned industrial building complex to be used as Office Headquarters</p> <p>Year: 2010</p> <p>Location: San Giovanni Valdarno (AR), Italy</p> <p>Client: La Castelnuovese</p> <p>Main project features:</p> <ul style="list-style-type: none"> - sustainable renovation of an existing building structure - use of natural climate sources for energy systems - evaporative cooling and wind-assisted exhaust ventilation through the industrial detached chimney <p>Positions held:</p> <ul style="list-style-type: none"> - Bioclimatic design coordinator - Passive and hybrid HVAC systems concept designer

<p>VENTILATION</p>	<p>- Activities performed: - Conceptual design of the hybrid HVAC system with solar air thermal collectors, exhaust stack ventilation through the industrial chimney, and evaporative cooling through downdraft ventilation</p>
<p>TEAM MEMBER</p> <p>(GROUP LEADER: ARCH. MARIA IRENE CARDILLO, ROME):</p> <p>- BIOCLIMATIC DESIGN - HYBRID AND PASSIVE SYSTEM CONCEPTS FOR HEATING COOLING AND VENTILATION - STACK EXHAUST VENTILATION</p>	<p>International Planning and Design Competition for the realisation of a Science Centre</p> <p>Year: 2010 Location: Beograd, Serbia Client: Municipality of Beograd</p> <p>Main project features: - sustainable city-integrated Master Plan - use of natural climate sources for energy systems - natural cross ventilation and exhaust through staircase stacks - solar wall</p> <p>Positions held: - Bioclimatic designer - Passive and hybrid HVAC systems concept designer -</p> <p>Activities performed: - Conceptual design of the hybrid HVAC system with solar wall, cross ventilation and exhaust through stack staircase, heat pumps</p>
<p>TEAM MEMBER</p> <p>(GROUP LEADER: ARCH. MARIA IRENE CARDILLO, ROME):</p> <p>- BIOCLIMATIC DESIGN - HYBRID AND PASSIVE SYSTEM CONCEPTS FOR HEATING COOLING AND VENTILATION</p>	<p>Design and Planning Competition for the realisation of a building complex with mixed uses</p> <p>Year: 2010 Location: Cabiato (CO), Italy Client: Municipality of Cabiato</p> <p>Main project features: - sustainable architectural and urban integration of residential, commercial and office uses - use of natural climate sources for energy systems - Controlled natural ventilation and night cooling through stack effect</p> <p>Positions held: - Bioclimatic designer - Controlled natural ventilation concept designer</p> <p>Activities performed: - Conceptual design of the controlled natural ventilation (CNV) systems in various architectural configurations - Assessment of the energy cooling performance of the CNV systems through a dynamics simulation model</p>

<p>TEAM MEMBER</p> <p>(GROUP LEADER: ARCH. PIETRO DE ROSSI AND ASS.TS, TURIN):</p> <ul style="list-style-type: none"> - SUSTAINABLE STRATEGIC PLANNING - SOLAR ACCESS ANALYSIS 	<p>Concept Competition for the Master Plan of a development urban area in Turin</p> <p>Year: 2010</p> <p>Location: Turin Northern area, Italy</p> <p>Client: Municipality of Turin</p> <p>Main project features:</p> <ul style="list-style-type: none"> - sustainable urban development - use of climate sources for energy infrastructures - shaping and location of buildings for optimisation of solar(winter) and wind (summer) access <p>Positions held:</p> <ul style="list-style-type: none"> - Sustainable planning coordinator - Solar urban designer - <p>Activities performed:</p> <ul style="list-style-type: none"> - Solar shading analysis of various urban configurations - Shaping and orientation of building layouts
<p>TEAM MEMBER</p> <p>(GROUP LEADER: ARCH. MARIA IRENE CARDILLO, ROME):</p> <ul style="list-style-type: none"> - SUSTAINABLE DESIGN - HVAC HYBRID AND PASSIVE CONCEPT DESIGN 	<p>Design Competition for the renovation of the central S. Giorgio square in Quartucciu (CA)</p> <p>Year: 2010</p> <p>Location: Quartucciu (CA), Sardinia, Italy</p> <p>Client: Puddu Group Constructions</p> <p>Main project features:</p> <ul style="list-style-type: none"> - surface pavement renovation with use of water - landscape marks conservation - outdoor space organisation for public events - underground spaces for library, conferences, and public meetings - natural stack-wind driven ventilation of underground spaces <p>Positions held:</p> <ul style="list-style-type: none"> - Bioclimatic designer - Energy systems consultant - <p>Activities performed:</p> <ul style="list-style-type: none"> - Concept design of the HVAC hybrid and passive integrated systems - Preliminary assessment of the HVAC systems cos

<p>TEAM MEMBER</p> <p>(GROUP LEADER: ARCH. MARIA IRENE CARDILLO, ROME):</p> <ul style="list-style-type: none"> - SUSTAINABLE DESIGN - HVAC HYBRID AND PASSIVE CONCEPT DESIGN 	<p>Design Competition for the sanitation and rehabilitation of a coal mine abandoned area in Sardinia</p> <p>Year: 2009</p> <p>Location: Carbonia (CA), Sardinia, Italy</p> <p>Client: Rotary Club, Cagliari</p> <p>Main project features:</p> <ul style="list-style-type: none"> - rehabilitation programme for the transformation of the area into an Ecopark - landscape design using locally growing plants - provision of greenhouse structures for growing and preservation of endangered vegetable species - provision of accommodation, leisure, and sport facilities - HVAC hybrid systems integrated with natural stack-wind driven ventilation <p>Positions held:</p> <ul style="list-style-type: none"> - Bioclimatic designer - Energy systems consultant <p>Activities performed:</p> <ul style="list-style-type: none"> - Climate site analyses for wind access - Energy optimisation of buildings layout and orientation - Concept design of the HVAC hybrid and passive integrated systems - Preliminary assessment of the HVAC systems costs
<p>CONSULTANT:</p> <ul style="list-style-type: none"> - ENERGY DYNAMICS SIMULATION - CFD SIMULATION - TECHNOLOGIES ASSESSMENT 	<p>Energy assessment of the glazing facades renovation of the Bracco Pharmaceutical Industries Headquarter</p> <p>Year:2009</p> <p>Location: Milan, Italy</p> <p>Client: General Planning Engineering, Milan</p> <p>Main project features:</p> <ul style="list-style-type: none"> - Comparison amid different configurations of the double glazing facades - Energy performance (winter/summer) of the naturally ventilated double glazing envelop - CFD simulation of the airflow through the envelope cavity in different vents configurations - Solar control for overheating risk avoidance - Windows technologies performance assessment <p>Positions held:</p> <ul style="list-style-type: none"> - Consultancy Staff Leader - Energy Efficiency Analyst - Technology Supervisor <p>Activities performed:</p> <ul style="list-style-type: none"> - Technological comparative analysis of glazing add-on pre-fabricated facades - CFD simulation of inner airflow through the double glazed facade air cavity - Energy Dynamics Simulation of the double glazed envelop in winter and summer conditions - Technologies Performance Assessment - Leading of discussion with service engineering and architectural designers to reach the optimal technological solutions

<p>CONSULTANT:</p> <ul style="list-style-type: none"> - ENERGY DYNAMICS SIMULATION - BIOCLIMATIC DESIGN: SOLAR CONTROL, GLAZING, GROUND COOLING, NIGHT VENTILATION - TECHNOLOGIES ASSESSMENT - COST EFFECTIVENESS ASSESSMENT 	<p>Preliminary Design of the new Office Headquarter of Martini&Rossi Industries</p> <p>Year:2009</p> <p>Location: Pessinetto (TO), Italy</p> <p>Client: MG3 Projects Associated Office, Turin</p> <p>Main project features:</p> <ul style="list-style-type: none"> - energy efficient design - low environmental impact of the construction type (light dry-assembled prefabricated system) - dynamic solar control through building shape and orientation, and window shading - high performance glazing facades - HVAC integration with hybrid systems assisted by micro-cogeneration and ground heat-exchange - night cooling through nat.l ventilation <p>Positions held:</p> <ul style="list-style-type: none"> - Environmental and Energy Consultant as a support for the Architectural and Services Designers - Energy Efficiency Analyst - Technology performance assessor <p>Activities performed:</p> <ul style="list-style-type: none"> - Strategic System Design comparative analysis - Energy Dynamics Simulation - Technologies Performance Assessment - Coordination between architectural and system design (integrated design) - Parametrical assessment of various envelop/systems configurations for cost-effectiveness evaluation
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<p>TEAM MEMBER</p> <p>(GROUP LEADER: ARCH. PIETRO DE ROSSI AND ASS.TS, TURIN):</p> <ul style="list-style-type: none"> - SUSTAINABLE DESIGN - ENERGY ANALYSIS - TECHNOLOGICAL ASSESSMENT 	<p>Design Competition for the realisation of a multi-functional centre</p> <p>Year: 2009</p> <p>Location: Parma, Italy</p> <p>Client: Province of Parma</p> <p>Main project features:</p> <ul style="list-style-type: none"> - design of outdoor and indoor spaces for thermal and visual comfort fulfilment - use of climate sources for energy systems - HVAC hybrid and passive system integration - solar electricity production (PV) <p>Positions held:</p> <ul style="list-style-type: none"> - Bioclimatic designer - Energy systems consultant <p>Activities performed:</p> <ul style="list-style-type: none"> - Concept design of hybrid and passive systems for HVAC and electricity production - Technological assessment of design choices
<p>TEAM MEMBER</p> <p>(GROUP LEADER: ARCH. PIETRO DE ROSSI AND ASS.TS, TURIN):</p> <ul style="list-style-type: none"> - SUSTAINABLE DESIGN - ENERGY ANALYSIS - TECHNOLOGICAL ASSESSMENT 	<p>Design Competition for the realisation of a multi-functional centre</p> <p>Year: 2008</p> <p>Location: Samarate (VA), Italy</p> <p>Client: Municipality of Samarate</p> <p>Main project features:</p> <ul style="list-style-type: none"> - design of outdoor and indoor spaces for thermal and visual comfort fulfilment - use of climate sources for energy systems - HVAC hybrid and passive system integration - solar electricity production (PV) <p>Positions held:</p> <ul style="list-style-type: none"> - Bioclimatic designer - Energy systems consultant <p>Activities performed:</p> <ul style="list-style-type: none"> - Concept design of hybrid and passive systems for HVAC and electricity production - Technological assessment of design choices
<p>TEAM MEMBER</p> <p>(GROUP LEADER: ARCH. ENRICO CURTI AND ASS.TS, LECCO):</p>	<p>International Design Competition for the enlargement of the Ethnographic Museum in Geneva</p> <p>Year: 2008</p> <p>Location: Geneva, Suisse</p> <p>Client: Ethnographic Museum of Geneva</p> <p>Main project features:</p>

<ul style="list-style-type: none"> - SUSTAINABLE DESIGN - ENERGY ANALYSIS - TECHNOLOGICAL ASSESSMENT 	<ul style="list-style-type: none"> - sustainable integration of the existing structure with new architecture - HVAC hybrid and passive system integration - solar electricity production (PV) <p>Positions held:</p> <ul style="list-style-type: none"> - Bioclimatic designer - Energy systems consultant <p>Activities performed:</p> <ul style="list-style-type: none"> - Concept design of hybrid and passive systems for HVAC and electricity production - Technological assessment of design choices
<p>CONSULTANT:</p> <ul style="list-style-type: none"> - ENERGY DYNAMICS SIMULATION - BIOCLIMATIC DESIGN: SOLAR CONTROL, GLAZING THERMAL SOLAR, GROUND COOLING, NIGHT VENTILATION - TECHNOLOGIES ASSESSMENT - CFD ANALYSIS 	<p>Design Development of the Junior High School Building “L. Orsini”</p> <p>Year:2005-2007</p> <p>Location: Imola (BO), Italy</p> <p>Client: Municipality of Imola</p> <p>Main project features:</p> <ul style="list-style-type: none"> - energy efficient design - dynamic solar control through window shading - high performance windows - modular mechanical ventilation (MV) - MV assisted by SolarWall (winter) and ground heat-exchange (all year) - night cooling through nat.l ventilation <p>Positions held:</p> <ul style="list-style-type: none"> - Consultancy Staff Leader - Energy Efficiency Analyst - Technology Supervisor <p>Activities performed:</p> <ul style="list-style-type: none"> - Strategic System Design supervision - Energy Dynamics Simulation - Technologies Performance Assessment - Coordination between architectural and system design (integrated design)
<p>TEAM MEMBER</p> <p>(GROUP LEADER: ARCH. BENEDETTO CAMERANA AND ASS.TS, TURIN):</p> <ul style="list-style-type: none"> - SUSTAINABLE DESIGN - ENERGY ANALYSIS - TECHNOLOGICAL ASSESSMENT 	<p>Design Competition for the realisation of a urban waste collection and recovery facility</p> <p>Year: 2006</p> <p>Location: Turin, Italy</p> <p>Client: AMIAT – Environmental Hygiene Agency of Turin</p> <p>Main project features:</p> <ul style="list-style-type: none"> - sustainable construction type through light metal dry-assembled elements - HVAC hybrid and passive system integration - solar electricity production (PV) <p>Positions held:</p> <ul style="list-style-type: none"> - Bioclimatic designer - Energy systems consultant

	<p>Activities performed:</p> <ul style="list-style-type: none">- Solar shading analysis for envelop energy optimisation- Concept design of hybrid and passive systems for HVAC and electricity production- Technological assessment of design choices
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<p>CONSULTANT:</p> <ul style="list-style-type: none"> - BIOCLIMATIC DESIGN: SOLAR CONTROL, GLAZING THERMAL, NIGHT VENTILATION - AIR SOLAR SYSTEM - WATER SOLAR SYSTEM 	<p>Design Development of the Nursery School “A. Frank”</p> <p>Year:2006</p> <p>Location: Nichelino (TO), Italy</p> <p>Client: Municipality of Nichelino</p> <p>Main project features:</p> <ul style="list-style-type: none"> - energy efficient design - high performance windows - sun space design - solar systems for pre-heating ventilation air - solar panels for DHW <p>Positions held:</p> <ul style="list-style-type: none"> - Consultant - Technology Supervisor <p>Activities performed:</p> <ul style="list-style-type: none"> - bioclimatic conceptual design - system design supervision - technologies performance assessment
<p>CONSULTANT:</p> <ul style="list-style-type: none"> - ENERGY DYNAMICS SIMULATION - BIOCLIMATIC DESIGN: THERMALSOLAR, GROUND COOLING, NIGHT VENTILATION - COST EFFECTIVENESS EVALUATION - TECHNOLOGIES ASSESSMENT 	<p>Design of the Consalud (Health Insurance) Headquarter</p> <p>Year:1998</p> <p>Location: Santiago, Chile</p> <p>Client: May y Soler, Santiago, Chile</p> <p>Main project features:</p> <ul style="list-style-type: none"> - energy efficient design - high performance windows - building/HVAC system integration - all-air HVAC with air solar thermal collector, ground cooling, and night cooling through nat.l ventilation - steel pillars’ cavities as main vertical ducts <p>Positions held:</p> <ul style="list-style-type: none"> - Consultancy Staff Leader - Energy Efficiency Analyst - Technology Supervisor - <p>Activities performed:</p> <ul style="list-style-type: none"> - Feasibility Study of the Bioclimatic Program - Schematic Bioclimatic Design - Energy Dynamics Simulation - Technologies Performance Assessment - Payback time assessment

<p>CONSULTANT: - DAYLIGHTING DESIGN</p>	<p>Energy Efficiency in California Detention Facilities Year:1992 Location: San Francisco, CA, USA Client: California Energy Commission, CA, USA Main project features: - Low-energy detention facilities - Daylight-activated controls on lighting system Positions held: - Energy analyst Activities performed: - energy consumption analysis - simulation of skylights' performance</p>
<p>CONSULTANT: - BIOCLIMATIC DESIGN</p>	<p>Design of a rammed earth building Year:1991 Location: Berkeley, CA, USA Client: Daniel Lieberman Arch. and Ass.ts, CA, USA Main project features: - Construction with high thermal mass using rammed (compressed) earth walls - Optimised energy performance for hot-dry climate Positions held: - Bioclimatic designer Activities performed: - schematic design of the building - performance energy assessment</p>

OTHER SCIENTIFIC AND INSTITUTIONAL ACTIVITIES

Member of the Panel of Experts by the European Commission, for the New Medina Project, held in Cairo and New Fayoum City, Egypt, at the HBRC (Housing & Building National Research Center), from September 24 to 27, 2012.

Member of the Scientific Council, Turin Polytechnic's Quality Centre, 2008-.

Member of the Coordination Committee, Inter-department Centre for Environmental Quality Evaluation in Buildings, Polytechnic University of Turin, University of Reggio Calabria, 2008-.

Member of the Directors Committee, Inter-university Centre for Sustainable Building Design, among 8 Universities in Italy, 2007-.

Independent expert for the European Commission within the following programmes:
 V Framework Programme – Sub-programme Environment “Energy and Sustainable Development” – “Energie”, key action “Renewable Energy for Sustainable Communities” (April, 2001);
 V Framework Programme – Sub-programme “Environment, Energy, and Sustainable Development” – “Energie”, key action “Eco-buildings” (February, 2002);

VI Framework Programme – Sub-programme “Sustainable Energy Systems”, Thematic Priority “Concerto” (February-March, 2004);

VII Framework Programme – Sub-programme “Energy”, Thematic Priority “Solar Thermal” (May, 2011).

Editorial activity for national and international Journals (Energy and Buildings, Building and Environment) as well as national publishers (EDICOM, ESSE Libri).

Standards development activity as a national expert for ISO/TC59/SC17 (Sustainability in building construction) and CEN/TC 350 (Sustainability in buildings) as well as Co-ordinator of the related Italian UNI Mirror Group. Coordinator of the UNI Committee 33/Task Group 2 “Sustainability in Buildings”.

Association membership within ISES (International Solar Energy Society), SBSE (Society for Building Science Educators-USA), AILCA (Italian Association for LCA), iiSBE (international initiative for a Sustainable Built Environment, former Vice President), Club Science&Profession of the *Friends of the Earth*, Piemonte Section (former President).

President of the first Commission for the State Architect Registration Examination, 2015.

Member of the Board of Directors, Polytechnic University of Turin, as the representative of Researchers, 1980-86.

Certification:

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes myself, my qualifications, and my experience. I understand that any wilful misstatement described herein may lead to my disqualification or dismissal, if engaged.

Date: June 7, 2015

Prof. Arch. Mario Grosso