

Curriculum Vitae

December 2024

Personal information

First name / Surname	Vincenzo Costanzo
Address	Viale Leonardo da Vinci 3, 95128, Catania (Italy)
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Nationality	Italian
Date of birth	02/12/1987
Gender	Male

Education and qualifications

<u>Dates</u>	<u>19/11/2021 – 18/11/2023</u>
Title of qualification awarded	LEED Green Associate
Name and type of organisation providing education and training	U.S. Green Building Council - Green Business Certification Inc., P.O. Box 822964, Philadelphia, PA 19182-2964 (United States)
<u>Dates</u>	<u>08/11/2020 – 08/11/2029</u>
Title of qualification awarded	Qualification as Associate Professor in Building Physics and Technical Systems (Abilitazione Scientifica Nazionale)
Name and type of organisation providing education and training	Ministry of University and Research (MUR) – Via Michele Carcani, 61 - 00153 Rome (Italy)
<u>Dates</u>	<u>20/03/2018 – present</u>
Title of qualification awarded	Qualification as Lecturer in Engineering and Architecture
Name and type of organisation providing education and training	Agència per a la Qualitat del Sistema Universitari de Catalunya (AQU) – C. dels Vergós, 36-42, 08017 Barcelona (Spain)
<u>Dates</u>	<u>01/11/2012 – 26/02/2016</u>
Title of qualification awarded	PhD in Energetics
Principal subjects/occupational skills covered	Building physics, building services, low energy and carbon design of buildings, passive cooling technologies, thermal comfort, daylighting, life cycle assessment
Final dissertation subject	Cool Roofs for improving thermal performance of existing EU office buildings
Name and type of organisation providing education and training	Department of Industrial Engineering – University of Catania. Viale A. Doria 6, 95125, Catania (Italy)
<u>Dates</u>	<u>01/06/2012 – 28/10/2013</u>
Title of qualification awarded	Specialization course on Construction Company's Engineer (Master di II livello)
Principal subjects/occupational skills covered	Public works legislation, management of public procurement and contracts, technical direction of construction site, management of on-site safety
Name and type of organisation providing education and training	Dirextra Alta Formazione s.r.l., via Domenico Chelini 9 – 200197 Rome (Italy)

<u>Dates</u>	<u>01/10/2006 – 19/07/2012</u>
Title of qualification awarded	Building Construction and Architectural Engineering Master Degree – Graduated with honours
Principal subjects/occupational skills covered	Building physics, building services, building technology, building science, building restoration, city planning, valuation, construction site management
Final dissertation subject	Cool Roofs for passive cooling – The research addresses the improvement of energy performance in the warm climate of the Mediterranean area
Name and type of organisation providing education and training	Department of Civil Engineering and Architecture (DICAR) – Università degli Studi di Catania. Viale A. Doria 6, 95125 Catania (Italy)
Level in national or international classification	Integrated Master's degree
<u>Dates</u>	<u>10/09/2001 – 15/07/2006</u>
Title of qualification awarded	High school diploma – Final mark 100/100
Name and type of organisation providing education and training	Liceo Scientifico Statale G. Verga, Adrano (CT) – Italy
Level in national or international classification	High school diploma
Work experience	
<u>Dates</u>	<u>02/10/2022 – present</u>
Occupation or position held	Co-founder of the academic spin-off WEDEST (We Design Studio)
Main activities and responsibilities	Design of innovative technical solutions for the combined energy and seismic renovation of buildings with concrete frame structures
Name and address of employer	WEDEST s.r.l., Via Eleonora D'Angiò 7, 95125 Catania (Italy)
<u>Dates</u>	<u>01/02/2022 – present</u>
Occupation or position held	Lecturer/Assistant Professor (Rtd-A)
Teaching activities and responsibilities	<ul style="list-style-type: none"> • Module convenor and teacher of the Low Carbon and Energy Efficient Buildings course of the MSc Degree in Architecture (academic year 2023-2024) • Module convenor and teacher of the Building Physics and Technical Systems course of the MSc Degree in Architecture (academic year 2023-2024) • Module convenor and teacher of the Sustainable building construction materials course of the MSc Degree in Civil and Structural Engineering (academic year 2023-2024) • Module convenor and teacher of the Energy Efficient Buildings and Technical Systems Design course of the MSc Degree in Building Construction and Architectural Engineering (academic year 2022-2023) • Module convenor and teacher of the Low Carbon and Energy Efficient Buildings course of the MSc Degree in Architecture (academic year 2022-2023) • Member of the didactic committee of the MSc Degree in Architecture (from 2022 to now) • Module convenor and teacher of the Sustainable building design course of the MSc Degree in Architecture (academic year 2021-2022)
Research activities and responsibilities	<ul style="list-style-type: none"> • Researcher and Task leader of the European H2020-funded project “e-SAFE” • Researcher of the Italian PRIN2022-funded project “FUD-of-SITHY” • Researcher of the Italian Ministry for Environment and Energy Security (MASE)-funded project “ITER” • Researcher of the Italian PRIN2020-funded project “URBEM”
Name and address of employer	Department of Civil Engineering and Architecture (DICAR) – Università degli Studi di Catania. Viale A. Doria 6, 95125 Catania (Italy)

<u>Dates</u>	<u>22/10/2018 – 31/01/2022</u>
Occupation or position held	Postdoctoral Researcher/Teaching Fellow (Assegnista di Ricerca)
Main activities and responsibilities	<ul style="list-style-type: none"> • Researcher in the fields of passive and active technological systems for building applications, thermal comfort (indoor and outdoor), daylighting, exergy, building energy efficiency, renewable energy production from solar source, life cycle assessment of buildings • Researcher of the H2020 project e-SAFE • Researcher of the IEA Task 59 Project • Lecturer for the Building Physics module of the MSc in Architecture • Member of the examination board of the Building Physics and technical Systems module of the MSc in Architecture • Supervisor of master students' final dissertation and of various projects on energy efficiency in buildings
Name and address of employer	Department of Civil Engineering and Architecture (DICAR) – Università degli Studi di Catania. Viale A. Doria 6, 95125 Catania (Italy)
<u>Dates</u>	<u>22/10/2018 – present</u>
Occupation or position held	Visiting lecturer
Main activities and responsibilities	<ul style="list-style-type: none"> • Lecturer on daylighting, lighting design, building energy simulation and tools and sustainability in construction for various MSc modules • Supervisor of PhD and MSc students' final dissertations • Joint researcher for various research projects
Name and address of employer	Joint International Research Laboratory of Green Building and Built Environments, Ministry of Education – Chongqing University (China)
<u>Dates</u>	<u>14/01/2016 – 13/07/2018</u>
Occupation or position held	Research Fellow/Teaching Assistant (PDRA)
Main activities and responsibilities	<ul style="list-style-type: none"> • Researcher in the fields of solar energy harvesting and energy demands/supply assessment at both the building and urban scales for the Research Cooperation in Renewable Energy Technologies for Electricity Generation (REELCOOP, EU FP7-funded) and the Low carbon climate-responsive Heating and Cooling of Cities (LoHCool, EPSRC/NSFC co-funded) projects • Lecturer and module builder for the CEM 107 module - <i>Sustainable Design and Management, principles and practice</i>, and CEM 108 module - <i>Engineering Research and Dissertation</i> of the MSc Course in Design and Management of Sustainable Built Environments at the University of Reading (UK)
Name and address of employer	School of the Built Environment – University of Reading Whiteknights, PO Box 219, Reading, RG6 6AW – United Kingdom
<u>Dates</u>	<u>13/01/2015 – 03/07/2015</u>
Occupation or position held	Visiting PhD student
Main activities and responsibilities	Researcher on the applicability of natural ventilation and daylighting strategies to existing office buildings
Name and address of employer	Centre for Building Performance Research – School of Architecture, Victoria University of Wellington Vivian Street 139, Wellington, 6011 – New Zealand

Publications

Monographies

- V. Costanzo, Cool Roofs for improving thermal performance of EU office buildings. An investigation for different climates and building layouts, Lambert Academic Publishing, Saarbrücken, 2016, ISBN 978-3-659-87090-3

Books

- V. Costanzo, G. Evola, L. Marletta, Urban heat stress and mitigation solutions. An engineering perspective, Routledge, London, 2021, ISBN 9780367493639

Book chapters

- V. Costanzo, G. Evola, L. Marletta, Understanding heat and mass transfer at the urban scale, in Urban Heat Stress and Mitigation Solutions: An Engineering Perspective, Routledge, London, 2021, ISBN 9780367493639
- R. Privitera, G. Evola, D. La Rosa, V. Costanzo, Green infrastructure to reduce the energy demand of cities, in Urban microclimate modelling for comfort and energy studies, Springer Cham, 2021, ISBN 978-3-030-65420-7

Journal papers

- Z. Li, R. Yao, V. Costanzo, C. Du, B. Li, The effects of the correlated colour temperature of light on thermal sensation in the built environment: A systematic review and meta-analysis, Building and Environment 267 (2025), 112235
- V. Costanzo, F. Nocera, M. Detommaso, G. Evola, Decarbonizing cities through electrification: a strategic study for densely built residential districts in Southern Italy, Sustainable Cities and Society 113 (2024), 105651
- A. Longhitano, V. Costanzo, G. Evola, F. Nocera, Microclimate investigation in a conference room with thermal stratification: an investigation of different air conditioning systems, Energies 17(5) (2024), 1188
- M. Brahimi, M. Benabbas, H. Altan, F. Nocera, V. Costanzo, Enhancing urban microclimates: potential benefits of greenery strategies in a semi-arid environment, Sustainability 15(23) (2023), 16380
- M. Detommaso, V. Costanzo, F. Nocera, G. Evola, Evaluation of the cooling potential of a greenery system coupled to a building through an experimentally validated transient model, Building and Environment 244 (2023), 110769
- A. Urso, G. Evola, V. Costanzo, F. Nocera, A critical analysis on the use of different weather datasets to assess moisture-related risks in building components for a Mediterranean location, Journal of Building Engineering 76 (2023), 107177
- A. Moradi, M. Kavgic, V. Costanzo, G. Evola, Impact of typical and actual weather years on the energy simulation of buildings with different construction features and under different climates, Energy 270 (2023), 126875
- F. Leone, A. Hasan, F. Reda, H. Rehman, F.C. Nigrelli, F. Nocera, V. Costanzo, Supporting cities towards carbon neutral transition through territorial acupuncture, Sustainability 15(5) (2023), 4046
- F. Leone, F. Reda, A. Hasan, H. Rehman, F.C. Nigrelli, F. Nocera, V. Costanzo, Lessons learned from positive energy district (PED) projects: cataloguing and analysing technology solutions in different geographical areas in Europe, Energies 16(1) (2023), 356
- A. Urso, V. Costanzo, F. Nocera, G. Evola, Moisture-related risks in wood-based retrofit solutions in a Mediterranean climate: design recommendations, Sustainability 14(22) (2022), 14706
- R. Rapisarda, F. Nocera, V. Costanzo, G. Sciuto, R. Caponetto, Preliminary assessment of the thermal performance of a hydroponic green roof system in a Mediterranean climate, Renewable Energy and Power Quality Journal 20 (2022), 548-553
- G. Evola, V. Costanzo, A. Urso, C. Tardo, G. Margani, Energy performance of a prefabricated timber-based retrofit solution applied to a pilot building in Southern Europe, Building and Environment 222 (2022), 109442
- V. Costanzo, F. Nocera, G. Evola, C. Buratti, A. Lo Faro, L. Marletta, P. Domenighini, Optical characterization of historical coloured stained glasses in winter gardens and their modelling in daylight availability simulation, Solar Energy 243 (2022), 22-34
- E. Fischer, M. Detommaso, F. Martinico, F. Nocera, V. Costanzo, A risk index for assessing heat stress mitigation strategies. An application in the Mediterranean context, Journal of Cleaner Production 346 (2022), 131210
- R. Rapisarda, F. Nocera, V. Costanzo, G. Sciuto, R. Caponetto, Hydroponic green roof systems as an alternative to traditional pond and green roofs: a literature review, Energies 15(6) (2022), 2190
- V.L. Goncalves, V. Costanzo, K. Fabbri, T. Rakha, Overheating assessment in Passivhaus dwellings: the influence of prediction tools, Buildings and Cities 3(1) (2022), 153-167

- V. Lo Verso, F. Giuliani, F. Caffaro, F. Basile, F. Peron, T. Dalla Mora, L. Bellia, F. Fragliasso, M. Beccali, M. Bonomolo, F. Nocera, V. Costanzo, Questionnaires and simulations to assess daylighting in Italian university classrooms for IEQ and energy issues, *Energy and Buildings* 252 (2021), 111433
- G. Evola, V. Costanzo, L. Marletta, Hygrothermal and acoustic performance of two innovative envelope renovation solutions developed in the e-SAFE project, *Energies* 14(13) (2021), 4006
- M. Detommaso, V. Costanzo, F. Nocera, Application of weather data morphing for calibration of urban Envi-Met microclimate models. Results and critical issues, *Urban Climate* 38 (2021), 100895
- V. Costanzo, K. Fabbri, E. Schito, M. Pretelli, L. Marletta, Microclimate monitoring and conservation issues of a Baroque church in Italy: a risk assessment analysis, *Building Research & Information* (2021), 1899797
- V. Lo Verso, F. Giuliani, F. Caffaro, F. Basile, F. Peron, T. Della Mora, L. Bellia, F. Fragliasso, M. Beccali, M. Bonomolo, F. Nocera, V. Costanzo, A survey on daylighting education in Italian universities. Knowledge of standards, metrics and simulation tools, *Journal of Daylighting* 8(1) (2021), 36-49
- G. Evola, V. Costanzo, M. Infantone, L. Marletta, Typical-year and multi-year building energy simulation approaches: a critical comparison, *Energy* 219 (2021), 119591
- V. Costanzo, G. Evola, M.F. Infantone, L. Marletta, Updated typical weather years for the energy simulation of buildings in Mediterranean climate. A case study for Sicily, *Energies* 13(15) (2020), 4115
- H.E. Huerto-Cardenas, F. Leonforte, N. Aste, C. Del Pero, G. Evola, V. Costanzo, E. Lucchi, Validation of dynamic hygrothermal simulation models for historical buildings: state of the art, research challenges and recommendations, *Building and Environment* 180 (2020), 107081
- G. Evola, V. Costanzo, C. Magri, G. Margani, L. Marletta, E. Naboni, A novel comprehensive workflow for modelling outdoor thermal comfort and energy demand in urban canyons: Results and critical issues, *Energy and Buildings* 216 (2020), 109946
- G.G. Akkurt, N. Aste, J. Borderon, A. Buda, M. Calzolari, D. Chung, V. Costanzo, C. Del Pero, G. Evola, H.E. Huerto-Cardenas, F. Leonforte, A. Lo Faro, E. Lucchi, L. Marletta, F. Nocera, V. Pracchi, C. Turhan, Dynamic thermal and hygrometric simulation of historical buildings: Critical factors and possible solutions, *Renewable and Sustainable Energy Reviews* 118 (2020), 109509
- K. Fabbri, V. Costanzo, Drone-assisted infrared thermography for calibration of outdoor microclimate simulation models, *Sustainable Cities and Society* 52 (2020), 101855
- A. Salehi, S. Asadi, V. Costanzo, R. Fayaz, M. Bozorgi, N. Imani, F. Nocera, Investigation of thermal comfort efficacy of solar chimneys under different climates and operation time periods, *Energy and Buildings* 205 (2019), 109528
- V. Costanzo, R. Yao, X. Li, M. Liu, B. Li, A multi-layer approach for estimating the energy use intensity on an urban scale, *Cities* 95 (2019), 102467
- M.-M. Fernandez-Antolin, J.M. Del Rio, V. Costanzo, F. Nocera, R.-A. Gonzalez-Lezcano, Passive design strategies for residential buildings in different Spanish climate zones, *Sustainability* 11(18) (2019), 4816
- V. Costanzo, R. Yao, T. Xu, J. Xiong, Q. Zhang, B. Li, Natural ventilation potential for residential buildings in a densely built-up and highly polluted environment. A case study, *Renewable Energy* 138 (2019), 340-353
- G. Evola, V. Costanzo, L. Marletta, Exergy analysis of energy systems in buildings, *Buildings* 8 (2018), 180
- V. Costanzo, G. Evola, L. Marletta, F. Nocera, The effectiveness of phase change materials in relation to summer thermal comfort in air-conditioned office buildings, *Building Simulation* 11(6) (2018), 1145-1161
- F. Nocera, A. Lo Faro, V. Costanzo, C. Raciti, Daylight performance of classrooms in a Mediterranean school heritage building, *Sustainability* 10(10) (2018), 3705
- V. Costanzo, G. Evola, L. Marletta, F. Pistone Nascone, Application of climate based daylight modelling to the refurbishment of a school building in Sicily, *Sustainability* 10(8) (2018), 2653
- V. Costanzo, K. Fabbri, S. Piraccini, Stressing the passive behavior of a Passivhaus: an evidence-based scenario analysis for a Mediterranean case study, *Building and Environment* 142 (2018), 265-277
- X. Li, R. Yao, M. Liu, V. Costanzo, W. Yu, W. Wang, A. Short, B. Li, Developing urban residential reference buildings using clustering analysis of satellite images, *Energy and Buildings* 169 (2018), 417-429

- V. Costanzo, R. Yao, E. Essah, L. Shao, M. Shahrestani, A.C. Oliveira, M. Araz, A. Hepbasli, E. Biyik, A method of strategic evaluation of energy performance of Building Integrated Photovoltaic in the urban context, *Journal of Cleaner Production* 184 (2018), 82-91
- R. Yao, V. Costanzo, X. Li, Q. Zhang, B. Li, The effect of passive measures on thermal comfort and energy conservation. A case study of the Hot Summer and Cold Winter climate in the Yangtze River region, *Journal of Building Engineering* 15 (2018), 298-310
- B. Li, C. Du, R. Yao, W. Yu, V. Costanzo, Indoor thermal environments in Chinese residential buildings responding to the diversity of climates, *Applied Thermal Engineering* 129 (2018), 693-708
- V. Costanzo, G. Evola, L. Marletta, A review of daylighting strategies in schools: state of the art and expected future trends, *Buildings* 7(2) (2017), 41
- V. Costanzo, M. Donn, Thermal and visual comfort assessment of natural ventilated office buildings in Europe and North America, *Energy and Buildings* 140 (2017), 210-223
- V. Costanzo, G. Evola, L. Marletta, Thermal and visual performance of real and theoretical thermochromic glazing solutions for office buildings, *Solar Energy Materials & Solar Cells* 149 (2016), 110-120
- V. Costanzo, G. Evola, L. Marletta, Energy saving in buildings or UHI mitigation? Comparison between green roofs and cool roofs, *Energy and Buildings* 114 (2016), 247-255
- V. Costanzo, G. Evola, L. Marletta, A. Gagliano, Proper evaluation of the external convective heat transfer for the thermal analysis of cool roofs, *Energy and Buildings* 77 (2014), 467-477
- V. Costanzo, G. Evola, L. Marletta, Cool roofs for passive cooling: performance in different climates and for different insulation levels in Italy, *Advances in Building Energy Research* 7(2) (2013), 155-169
- V. Costanzo, G. Evola, A. Gagliano, L. Marletta, F. Nocera, Study on the application of cool paintings for the passive cooling of existing buildings in Mediterranean climates, *Advances in Mechanical Engineering*, Volume 2013, Article ID 413675

Conference papers (*presenting author)

- A. Urso, G. Evola, F. Nocera, V. Costanzo*, A. Tejero-Gonzales, E. Velasco-Gomez, Modeling a Dew Point Indirect Evaporative Cooling System for TRNSYS building simulations: proposal and validation, *Proceedings of BSA24 Conference*, in press
- F. Nocera, V. Costanzo*, M. Detommaso, G. Lombardo, G. Sciuto, A. Moschella, A. Lo Faro, A. Salemi, The effects of a green façade on the indoor thermal conditions of a lightweight building. An experimental and numerical investigation, *Proceedings of SEB 2023 Conference*, 143-153
- A. Urso, V. Costanzo, G. Evola, F. Nocera, On the choice of the weather dataset in hygrothermal simulations in Mediterranean climate: MRY vs TWY, *Building simulation conference proceedings* 18 (2023), 80-87
- G. Lombardo, A. Moschella, F. Nocera, A. Salemi, G. Sciuto, A. Lo Faro, M. Detommaso, V. Costanzo*, The impact of a vertical greening system on the indoor thermal comfort in lightweight buildings and on the outdoor environment in a Mediterranean climate context, *Proceedings of SEB 2022 Conference*, 37-46
- G. Evola, G. Margani, V. Costanzo*, A. Artino, D.L. Distefano, G. Semprini, M. Lazzaro, D. Arnone, A decision support tool for the co-design of energy and seismic retrofitting solutions within the e-SAFE project, *Proceedings of SEB 2022 Conference*, 12-21
- G. Giuffrida, V. Costanzo, F. Nocera, M. Cuomo, R. Caponetto, Natural and recycled stabilizers for rammed earth material optimization, *Proceedings of SEB 2022 Conference*, 164-174
- A. Bonora, V. Costanzo, K. Fabbri, M. Pretelli, E. Schito, Indoor microclimate and conservation issues of the Medicean Villa La Petraia. A preliminary assessment, *Proceedings of the Florence Heri-Tech 2022 Conference*, 155-168
- G. Evola, A. Urso, V. Costanzo, F. Nocera, L. Marletta, Heat and mass transfer modelling for moisture-related risks in walls retrofitted by timber materials, *Building Simulation Applications* (2022), 49-57
- A. Lo Faro, A. Moschella, G. Lombardo, A. Salemi, G. Sciuto, F. Nocera, V. Costanzo, The building stock rehabilitation: the contribution of vertical greenery systems (VGS), *Proceedings of REHABEND 2022 Conference*, 1476-1484
- V. Costanzo*, G. Evola, L. Marletta, G. Roccella, Preliminary investigation on the transient hygrothermal analysis of a CLT-based retrofit solution for exterior walls, *Proceedings of the CISBAT 2021 Conference*, Lausanne (Switzerland), September 8-10, 2021
- G. Evola, V. Costanzo*, L. Marletta, F. Nocera, M. Detommaso, A. Urso, An investigation on the radiant heat balance for different urban tissues in Mediterranean climate: a case study, *Proceedings of the CISBAT 2021 Conference*, Lausanne (Switzerland), September 8-10, 2021

- G. Evola, F. Nocera, V. Costanzo*, M. Detommaso, S. Bonaccorso, L. Marletta, Greenery systems for the mitigation of the urban heat island: a simulation experience for southern Italy, Proceedings of the 11th INPUT Conference, Catania (Italy), September 8-10, 2021
- A. Tejero-Gonzales, F. Nocera, V. Costanzo, E. Velasco-Gomez, Passive evaporative cooling through water filled bricks: a preliminary investigation, Proceedings of the 8th IBPC Conference, Copenhagen (Denmark), August 25-27, 2021
- G. Evola, V. Costanzo*, M. Infantone, C. Marino, M.F. Panzera, L. Marletta, Upgrading weather datasets for building energy simulation: a preliminary investigation. Proceedings of the 20th International Conference on Environment and Electrical Engineering (EEEIC2020), Madrid (Spain), June 9-12, 2020
- G. Evola, G. Margani, V. Costanzo, C. Tardo, E. Marino, G. Semprini, R. Tomasi, C. Halmdienst, B. Voortman, The e-SAFE energy and seismic renovation solutions for the European building stock: main features and requirements, Proceedings of the 8th IBPC Conference, Copenhagen (Denmark), August 25-27, 2021
- G. Evola, V. Costanzo*, M. Infantone, C. Marino, M.F. Panzera, L. Marletta, Upgrading weather datasets for building energy simulation: a preliminary investigation, Proceedings of the 2020 IEEE/EEEIC International Conference, Madrid (Spain), June 9-12, 2020
- V. Costanzo*, G. Evola, L. Marletta, Exergy analysis of a residential building in Southern Italy: lessons for low-exergy buildings and systems, Proceedings of the BS2019 International Conference, Rome (Italy), September 2-4, 2019
- V. Costanzo*, J.E. Carrillo-Gomez, G. Evola, L. Marletta, Suitability of Passivhaus design for housing projects in Colombia, Proceedings of SEB19 International Conference, Budapest (Hungary), July 4-5, 2019
- J. Xiong, V. Costanzo, R. Yao, B. Li, Assessing the natural ventilation potential of residential buildings in the Hot Summer and Cold Winter zone of China, Proceedings of the 2018 Roomvent & Ventilation International conference, Espoo (Finland), June 2-5, 2018
- V. Costanzo*, L. Marletta, F. Nocera, C. Raciti, Daylight in a historical building used as a school. Refurbishment options according to its heritage value, Proceedings of the AIDI National Congress, Rome (Italy), May 17-18, 2018
- C. Zheng, P. Wu, V. Costanzo, Y. Wang, X. Yang, Establishment and verification of solar radiation calculation model of glass daylighting roof in Hot Summer and Warm Winter zone in China, Procedia Engineering 205 (2017), 2903-2909
- A. Consoli, V. Costanzo, G. Evola, L. Marletta, Refurbishing an existing apartment block in Mediterranean climate: towards the Passivhaus standard, Energy Procedia 111 (2017), 397-406
- G. Evola, L. Marletta, V. Costanzo, G. Caruso, Different strategies for improving summer thermal comfort in heavyweight traditional buildings, Energy Procedia 78 (2015), 3228-3233
- V. Costanzo*, X. Li, R. Yao, Estimating urban buildings Energy Use Intensities (EUIs) by means of a bottom-up multi-layer engineering approach, Proceedings of the 8th SuDBE International Conference, Chongqing (China), November 4-7, 2017
- C. Zheng, P. Wu, V. Costanzo, Y. Wang, X. Yang, Establishment and verification of solar radiation calculation model of glass daylighting roof in Hot Summer and Warm Winter zone in China, Proceedings of the 10th ISHVAC, Jinan (Cina), 19-22 Ottobre 2017
- V. Costanzo*, R. Yao, M. Shahrestani, E. Essah, L. Shao, A.C. Oliveira, A. Hepbasli, E. Biyic, M. Araz, A framework for assessing the matching between electricity demand and supply of urban buildings equipped with BIPV, Proceedings of the Med Green Forum 4, Firenze (Italia), 31 Luglio – 3 Agosto 2017
- V. Costanzo, G. Evola, L. Marletta, D. Panarelli, Static and dynamic strategies for improving daylight use in side-lit classrooms: a case study, Proceedings of the 2017 BSA International Conference, Bolzano (Italia), 8-10 Febbraio 2017
- V. Costanzo*, G. Evola, L. Marletta, The effectiveness of PCM wallboards for the energy refurbishment of lightweight buildings, Proceedings of the 9th National AIGE Congress, Catania (Italia), 17-18 Settembre 2015
- G. Evola, L. Marletta, V. Costanzo, G. Caruso, Different strategies for improving summer thermal comfort in heavyweight traditional buildings, Proceedings of the 6th International Building Physics Conference, Torino (Italia), 14-17 Giugno 2015
- V. Costanzo*, G. Evola, L. Marletta, Energy savings in buildings or UHI mitigation? Comparison between green roofs and cool roofs, Proceedings of the 3rd International Conference of Countermeasures to Urban Heat Island, Venezia (Italia), 13-15 Ottobre 2014
- V. Costanzo*, G. Evola, A. Gagliano, I. Marletta, Cool roof for passive cooling: simulations of an existing building in southern Italy, Proceedings of the 34th AIVC International Conference, Atene (Grecia), 25-26 Settembre 2013
- L. Marletta, G. Evola, V. Costanzo*, Thermodynamic analysis of hybrid solar collectors

Academic responsibilities

Third mission activities

- Co-founder of the academic spin-off WEDEST (We Design Studio) – *from October 2022 to now*

The spin-off is engaged in the research and design of innovative technical solutions for the combined energy and seismic renovation of buildings with concrete frame structures

- Responsible of the agreement of cooperation with the social cooperative ARCOLAIO – *from August 2022 to August 2024*

The agreement regulates the cooperation of the Architecture Didactic Structure with the ARCOLAIO social cooperative for designing a nearly-zero energy building for the prisoners of the Cavadonna prison in Siracusa

- Member of the design team involved in the agreement of cooperation with Caltagirone city – The agreement regulates the cooperation of the Architecture Didactic Structure with the Mayor of Caltagirone city for designing an energy efficient tourist center and renovating various public squares and street

- Member of the design team involved in the agreement of cooperation with the Professional Order of Physicians of Catania – *from dddd*

The agreement regulates the cooperation of the Department of Civil Engineering and Architecture with the Professional Order of Physicians of Catania in the consultancy activity for the refurbishment/reselling of one real estate property

- Responsible of the agreement of cooperation with the CHONGQING UNIVERSITY – *from September 2019 to now*

The agreement regulates all the research and teaching cooperation activities between the University of Catania (Italy) and Chongqing University (China)

Editorial activity

- Advisory Board Member of Cambridge Scholars Publishing (UK) and Altralinea Edizioni (Italy) publishing houses
- Associate Editor of the Journal of Building Engineering (Elsevier)
- Editorial Board Member of the following journals: Energy and Buildings (Elsevier), Journal of Daylighting (Solarlits Publisher), Sustainability (MDPI Publisher), Energies (MDPI Publisher), Intelligent Buildings International (Taylor & Francis Publisher)
- Guest Editor of the Special Issue "Assessing the performance of Passive Houses in Mediterranean climate regions", Sustainability Journal (MDPI Publisher)
- Guest Editor of the Special Issue "Advances in Historic Buildings Conservation and Energy Efficiency", Sustainability Journal (MDPI Publisher)
- Guest Editor of the Special Issue "Indoor microclimate and technical systems in historic buildings: challenges and opportunities", Sustainability Journal (MDPI Publisher)
- Guest Editor of the Special Issue "Combined energy and seismic renovation of the building stock: technologies, constraints and performances", Sustainability Journal (MDPI Publisher)
- Reviewer for the journals Energy and Buildings, Journal of Building Engineering, Urban Climate, Energy, Journal of Cleaner Production, Applied Energy, Building and Environment, Renewable Energy, Sustainability, Energies, Buildings

Chair/organizer of conferences

- Sustainability in Energy and Buildings SEB-23, Bari (Italy), September 18-20, 2023
- Sustainability in Energy and Buildings SEB-22, Spit (Croatia), September 14-16, 2022
- Med Green Forum 4, Florence (Italy), July 31 - August 3, 2017

Supervisor (PhD students)

- M. Detommaso, Urban regeneration strategies and sustainable design solutions for mitigation of the Urban Heat Island phenomenon and the improvement of the outdoor thermal-hygrometric wellbeing of the Mediterranean cities, *graduated on January 2022* (Università degli Studi di Catania)
- F. Leone, Supporting Cities towards Carbon Neutral Transition through Territorial Acupuncture, *ongoing* (Università degli Studi di Catania)
- A. Urso, Hygothermal analysis of wooden-based construction components for the seismic and energy renovation of existing reinforced concrete buildings, *ongoing* (Università degli Studi di Catania)
- A. Longhitano, Resilience and adaptability of historic buildings to climate change. Passive and active strategies for thermal comfort, *ongoing* (Università degli Studi di Catania)

- G. Cataldi, Antichità contemporanea. Il contributo dell'innovazione tecnologica per l'upgrade prestazionale di un edificio storico: palazzo Belmonte-Riso, February 2024
- I. Nicotra, Progetto di riqualificazione energetica di una ex masseria riconvertita in residenza turistico-alberghiera", July 2021 (University of Catania)
- F. Saggio, Analisi termoigrometrica di tipologie murarie utilizzate in Italia, March 2021 (University of Catania)
- F. Piccione, Analisi energetica in regime dinamico per la riqualificazione di una ex masseria all'interno di una RTA denominata "Casal Sikelio", May 2020 (University of Catania)
- M. Infantone, Impact of weather data and climate change on building energy analysis in urban contexts, July 2019 (University of Catania)
- J.E. Carrillo Gomez, Passive design strategies for housing projects in Colombia, July 2017 (University of Reading)
- C. Raciti, Daylight in historical buildings used as schools, June 2017. (University of Catania)
- F. Pistone Nascone, Visual comfort and daylight in school buildings: a case study, May 2017 (University of Catania)
- D. Panarelli, Different strategies for improving daylight levels in school buildings. A case study, March 2016. (University of Catania)
- A. Consoli, Application of the Passivhaus standard to an existing multi-storey building in the Mediterranean area, January 2016. (University of Catania)
- G. Ferlazzo, Energy optimization of a hospital building by means of passive systems, October 2014. (University of Catania)
- V. Tirotta, Solar cooling for commercial buildings. A case study, October 2014. (University of Catania)
- L. Cascone, Application of solar cooling technologies to residential buildings, October 2014. (University of Catania)

Personal skills and competences

Mother tongue(s)

Other language(s)

Self-assessment

European level (*)

Italian

English

Understanding				Speaking				Writing	
Listening		Reading		Spoken interaction		Spoken production			
C1	Advanced user	C1	Advanced user	C1	Advanced user	C1	Advanced user	C1	Advanced user

Language certifications

June 2014 – TOEFL iBT Test, **Test of English as Foreign Language**, ETS. Marks: 96/120

May 2013 – FCE, **First Certificate of English**, ESOL examinations

Other certifications

March 2019 – Proficiency user of ArcGis (**ECDL GIS Certificate IT 2293123**)

Organisational skills and competences

- Ability to work in groups, developed during the PhD course and the research experience abroad and in Italy
- Ability to lead a small-to-medium working group and to coordinate the production of reports and the design of projects
- Ability to cope with deadlines and to foresee, assign and monitor tasks, both individually and in groups

Computer and experimental skills and competences

- Ability to perform in situ campaign measurements of: heat flux (heat flux meter), indoor comfort parameters (Babuc microclimate station), illuminance (illuminance meter), luminance (luminance meter), sound pressure levels (phonometer), spectral optical properties of opaque and transparent construction materials (S2000 Ocean Optics spectrometer), infrared thermal pictures (Testo 872 Infrared Camera)
- Very good knowledge of Windows environment, versatility and adaptability to new software and hardware solutions
- Ability to perform extensive research on the Internet through search engines, academic databases and software of various kinds
- Very good knowledge of Microsoft Office Suite
- Ability to perform Life Cycle Assessment (LCA) analyses of buildings and other civil engineering constructions with OneClick LCA software
- Ability to perform dynamic energy, hygrothermal, and daylighting analyses, both at building and urban scales, with the following software: EnergyPlus, OpenStudio, DesignBuilder, Ecotect, TRNSYS, Daysim, Groundhog, UMI, DIVA, ClimateStudio, Delphin
- Ability to perform extensive parametric analysis with JEplus and with modified batch files (EnergyPlus and Daysim)
- Good knowledge of Grasshopper (visual programming language in Rhino environment) and of its environmental tools Ladybug and Honeybee (EnergyPlus and Radiance based)
- Ability to perform CFD simulations with UrbaWind software
- ArcGIS software specialist (ECDL GIS Certificate IT 2293123)
- Good knowledge of Envi-Met software
- Good knowledge of Autocad (2D and 3D), 3DsMax Design, Google Sketchup, Piranesi, Rhino

Various interests

Music, cinema, painting, swimming, trekking, oenology

Driving licence

Type A (motorbike), Type B (car)

Date:

Signature:

