

## **Sangiorgio Valentino**

Master Degree in Building Engineering

PhD in "Risk and environmental, territorial and building development"

Current affiliation:

Assistant Professor at D'Annunzio University of Chieti - Pescara

Previous Affiliations:

Universidade do Porto, (Porto, Portugal),  
Universitat Politècnica de València (Valencia, Spain),  
Pontificia Universidad Católica del Perú (Lima, Peru),  
Polytechnic of Bari (Bari, Italy)

**SCIENTIFIC AND ACADEMIC CURRICULUM**

updating: 08/06/2023

## PERSONAL DATA



## SANGIORGIO VALENTINO

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Marital status: Celibate  
Nationality: Italian  
Date of birth: Bari, 08/02/1991  
Languages: Italian (native language), English (advanced), Spanish (medium level)  
ORCID ID: 0000-0002-7534-3177  
Scopus ID: 57197836142  
Profile GoogleScholar: <https://scholar.google.it/citations?user=m-tY42AAAAAJ&hl=it&oi=sra>  
Profile ResearchGate: [https://www.researchgate.net/profile/Valentino\\_Sangiorgio](https://www.researchgate.net/profile/Valentino_Sangiorgio)  
Profile LinkedIn: <https://www.linkedin.com/in/valentino-sangiorgio-855b6a113/>  
University website: <https://www.unich.it/ugov/person/386366>

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## SUMMARY OF CV:

This section describes briefly a summary the career of Dr. Valentino Sangiorgio in science, academic and research. This summary includes the main scientific and technological achievements and goals of the research of Dr. Sangiorgio in the medium and long term. It also includes other important aspects or peculiarities.

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Valentino Sangiorgio obtained his PhD (Cum Laude) in Risk and Environmental, Territorial and Building Development in **2019** from the Polytechnic of Bari, Italy, where he continued to work until 2020 thanks to a research grant obtained from a European project funding. Dr Sangiorgio's research is centred on the "Digital Transition" of the building construction sector. This research requires a high level of interdisciplinary collaboration to reconcile traditional building engineering concepts with innovative technologies and performance analysis methods.

**In 2020**, he won the APOST 2020 research project with the highest score, funded by the Valencian Region through the European Commission, which allowed him to finance his 2-year postdoctoral fellowship at the Universitat Politècnica de València (Spain) and Universidade do Porto (Portugal). During this period, the research focuses on "building resilience," including the study of climate change and natural disasters' impact on a structure's resilience (Multi-Risk Analysis) and the use of novel construction technologies such as Augmented Reality, 3D Printing, User Reporting, and Optical Fiber Sensors.

**Since 2022**, he holds the position of Assistant Professor of Architectural Engineering Design at the "G. d'Annunzio" University of Chieti - Pescara (Italy), which is his current position.

During his years of research, he focused on the application of emerging technologies, such as Augmented Reality and Digital Manufacturing, to enhance the energy sustainability, resilience, and climate adaptability of buildings. He conducted this research with the support of **5 projects** funded through open competitions by the **European Commission** and **2 national projects** (in Italy and Spain).

Dr. Sangiorgio's academic profile is characterized by a high level of **international activity**, including **5** visiting research periods. Recently, he has also been appointed as a visiting professor at **University College London** (London, UK) and the **Pontificia Universidad Católica del Perú** (Lima, Peru) to teach Master's and PhD courses. His research interests include collaboration with some of the world's leading experts in their fields (Santamouris Mat, Humberto Varum, Francesco Fiorito, Luis Vargas, and Jose M. Adam). He has published approximately **53 research papers to date** in collaboration with international universities such as the Universitat Politècnica de València (Spain) and the Universidade do Porto (Portugal), Universidade de Brasília (Brazil), and the University of New South Wales (Australia), University of Pittsburgh (Pennsylvania). Dr. Sangiorgio has enhanced his international research network by acting as chair, member of the Scientific Committee or program chair for **7** conferences. Furthermore, he has delivered **17 oral presentations** at national and international conferences. He serves as a Topic Editor and Guest Editor for various international journals, including Building Design, Sustainability, and Frontiers in Built Environment. He also works as a **reviewer** for over 18 international journals.

Every year, Dr. Sangiorgio teaches various university courses in the subjects of Integrated Design, Digital Manufacturing, and Multi-Risk Analysis for Bachelor's, Master's, and PhD students.

For scientific and technological dissemination, he has actively contributed to the scientific community as an associate member and on the board of directors of the non-profit association "FabLab Bitonto". Furthermore, Dr. Sangiorgio is presently involved in the management of the University Laboratory (FabLab Poliba) at Polytechnic of Bari. In terms of technology transfer activity, Dr. Sangiorgio won the regional call "PIN Pugliesi Innovativi" (European funds) with his project "Climb3D." The project aimed to create new building components utilizing digital manufacturing technologies like 3D printing and CNC drilling machines.

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## GENERAL QUALITY INDICATORS OF SCIENTIFIC RESEARCH:

This section describes briefly the main quality indicators of scientific production (affiliations, periods of research activity, experience in supervising doctoral theses, total citations, articles in journals of the first quartile, H index, ...).

### -Scientific Production

Number of scientific publications: **53 (+1 in review)**;  
Number of Scopus-indexed publications: **40 (+2 in update)**;  
Number of Publications in first quartile (Q1): **20** (Scimago Journal & Country Rank).

### -Metrics for scientific impact

Total citations: **449** citations (Scopus);  
Total citations: **589** citations (Google Scholar);  
h-index: **14** (Scopus);  
h-index: **15** (Google Scholar).

-National and International conferences: **17** oral presentations

-Scientific responsibility in competitive calls: **1** (Call "APOST 2020", Valencia, Spain)

-Participation in competitive research projects: **7 projects (Total funding: €23.438.350,00)** some example below.

ERIES (2022)	SAFE 3D PRINTED-CS _ Seismic and energy Assessment of the perFormancE of 3D PRINTED Concrete Structures: tests on thermal and seismic performances;
Future 4.0 (ADRION)	Enabling technologies of industry 4.0 in the Adriatic-Ionian area;
ELVITEN Horizon 2020	Electrified L-category Vehicles Integrated into Transport and Electricity Networks;
MSCA-ITN-2016-ETN	Fibre Nervous Sensing Systems;
BIA 2014- 59036-R	Sistemas inteligentes para la monitorización y evaluación de edificios.

-International Research Activities and Affiliations: **5 Visiting Research Period to date**

### - International Teaching Activity:

**Visiting Professor and Lecturer** at the **Pontificia Universidad Católica del Perú** (Lima, Peru), **Master Course (48 Hours)**;  
**Visiting Professor and Lecturer** at the **University College London** (London, UK), **PhD Course (20 Hours)**;

### - Teaching Activity:

**2 Bachelor's degree courses** (University of Chieti - Pescara);  
**3 Master's degree courses** (University of Chieti – Pescara and Pontificia Universidad Católica del Perú);  
**3 PhD Course courses** (Polytechnic of Bari and University College London).

### - Thesis supervision:

**2 PhD thesis SUPERVISOR** (Polytechnic of Bari and University of Chieti - Pescara);  
**12 Master's degree thesis** (Polytechnic of Bari).

-Management of the University Laboratory (FabLab Poliba) in **Polytechnic of Bari** (18/10/2017–Today)

### -Editorial board:

Editorial board member for Journal of Building Design and Environment (IF 1.310);  
Topic Editor and Guest Editor for Sustainability (IF: 3.889);  
Review Editor and Topic Editor for Frontiers in Built Environment (IF: 1.897);  
Associate Editor and Chair for IEEE SMC 2019 and 2020;  
Reviewer in more than 18 International Journals.

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## EDUCATION:

- 04/10/2022– 04/10/2032  
ASN  
National Scientific  
qualification for Associate  
Professor
- National Scientific qualification as associate (Professor) in the Italian higher education system** for the disciplinary and Academic Recruitment Field of 08/C1 - Design and technological planning of architecture.
- 01/10/2015–28/01/2019  
PhD  
highest mark: cum laude  
(Doctor Europaeus)  
Building Engineering
- PhD cum laude and Doctor Europaeus in "Risk and environmental, territorial and building development" Polytechnic of Bari:** the research is devoted to existing building monitoring, diagnostics on a large scale through multi-criteria decision analysis, Decision Support System, optimization and novel technologies of the industry 4.0.  
PhD Thesis: "**Development of a Decision Support System for the structural degradation analysis of RC buildings supported by user-reported data and modern Information Technologies**"  
Tutors: Prof. **Giuseppina Uva** (Polytechnic of Bari); Prof. **Fabio Fatiguso** (Polytechnic of Bari); Prof. **Jose M. Adam** (Universitat Politècnica de València); Prof. **Humberto Varum** (Universidade do Porto).
- 01/09/2012–18/03/2015  
Master Degree  
Building Engineering
- Master Degree in Building Engineering (Ingegneria dei Sistemi Edilizi) (110/110)** (Polytechnic of Bari),  
Dissertation entitled: The building heritage refurbishment: the case of the school building "Cirielli" in Bari.  
Topics: Seismic design, building heritage refurbishment, existing building vulnerability.
- 01/09/2009– 20/02/2013  
Bachelor's Degree  
Building Engineering
- Bachelor's Degree Building Engineering** (Polytechnic of Bari),  
Dissertation entitled: Multicriteria methods for building depreciation in real estate.
- 12/05/2016–12/07/2016  
Qualified to "Coordinator"
- Qualified to "Coordinator for the planning and works execution in the field of safety and health required for the temporary or mobile construction sites"**- Sudformazione, Bari (Italia).
- 2015  
Professional qualification
- Enrollment in the register of engineers of Bari**

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## ACADEMIC POSITION:

- 01/01/2022–Today  
Assistant Professor  
Università degli Studi "G.  
d'Annunzio" Chieti - Pescara
- Lecturer (RTDA - assistant professor)** at the D'Annunzio University of Chieti–Pescara  
Academic Recruitment Field of **08/C1 (ICAR/10)**.
- Research and teaching** activity are aimed at the "components and building design realised through digital fabrication and additive manufacturing technologies".
- 01/09/2020 – 31/12/2021  
Post-Doc  
Universitat Politècnica de  
València (Spain)  
Universidade do Porto  
(Portugal)
- Post-doc position** (European Social Fund, 2014-2020) in the "Building Resilient" group at the Universitat Politècnica de València (Spain) and Universidade do Porto (Portugal).
- 18/11/2018 –01/09/2020  
Research grant  
Polytechnic of Bari (Italy)
- Research grant holder** at the Polytechnic of Bari DICATECh, Bari (Italy)
- Research activity concerning the study of the new technologies of the industry 4.0 and use in the construction sector.

01/10/2015–28/01/2019  
PhD student scholarship  
Polytechnic of Bari (Italy)

PhD student scholarship at the Polytechnic of Bari DICATECh, Bari (Italy)

18/10/2017–Today  
University Laboratory  
Management

Management of university FabLab in Polytechnic of Bari, BA (Italy) <http://www.fablabpoliba.org>

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## RESEARCH ACTIVITY:

His research interests include **multi-risk analysis, novel technologies for building construction and multi-criteria approaches**. In particular, the research of Dr Sangiorgio aims to improve **energy sustainability, resilience and climate adaptability of the built environment**.

Several works regarding such topics have been published during his academic career.

International collaborations were generated in the last few years including the following institutions:

- i) ICITECH department "Universitat Politècnica de València", Valencia (Spain),
- ii) Faculdade de Engenharia from Universidade do Porto, Porto (Portugal),
- iii) FAU department, Universidade de Brasília (Brazil),
- iv) University of Pittsburgh (Pennsylvania, USA),
- v) University of New South Wales (Australia).

The main research topics are listed as follows.

The **Multi Risk analysis** in  
Building Construction

**The research on Multi-risk analysis** investigates both the structural and energy aspect of the construction. Some of the hazardous phenomena already investigated include the influence of **climate change** and **extreme natural events** on the structure's durability, the safety of transportation systems, artistic and architectural damages, urban heat islands, heat waves mortality, and risk of covid 19 contagion.

Project and Publications related to the research topic: RP2, RP4, RP5, P13, P12, P11, P10, P9, P8, P7, P6, P5, P4, P2, P1, I8, C10, C9, C7, C6, C4, C1, N3

The use of **novel technologies** to enhance  
resilience and climate  
adaptability

The construction sector typically takes advantage of the benefits of technological progress late in comparison with other sectors. For this reason, the civil sector needs research projects focused on the study of the potential and application of **novel technologies** of Industry 4.0.

This research topic investigates the potential and application of **novel technologies** in the construction sector including: Augmented Reality, 3D Printing, IoT tools, user-reporting by using smart devices, fiber optic sensors and Decision Support Systems;

Project and Publications related to the research topic: RP1, RP2, RP3, RP4, RP5, P14, P13, P4, P3, P2, I2, I1, C13, C12, C8, C5, C4, C3, C2, N2, N1

**Multi-criteria analysis and  
Optimization** in Building  
Construction

The need to consider numerous criteria, qualitative and quantitative data in the Design and Construction Management, requires new tools to perform **multi-criteria analyses**.

This research topic is devoted to the development of novel Multi-criteria analysis supported by modern technologies and state of the art techniques to be used in the building construction sector.

Project and Publications related to the research topic: RP1, P13, P12, P11, P7, P1, I1, C12, N2, I4.

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## PUBLICATIONS

He published a total of **53 (+1 in review)** research products (Book, scientific international journal papers, international conference proceedings and national conference proceedings). He publishes in international journals such as:

<b>Automation in Construction</b>	(IF 10.517),
<b>Nature: Scientific Reports</b>	(IF 4.996),
Struct Control and Health Monitoring	(IF 6.058),
Sustainability	(IF 3.889),
Energy Policy	(IF 7.576),
Safety Science	(IF 6.392),
Journal of Construction Engineering and Management	(IF 3.952),
Engineering Failure Analysis	(IF 3.730),
Measurement	(IF 3.927),
Environmental Engineering Science	(IF 2.172),
Journal of Performance of Constructed Facilities	(IF 2.440),
International Journal of Architectural Heritage	(IF 2.950),
Architectural Science Review	(IF 1.990),
Structures	(IF 4.010),
Acta IMEKO	(IF 0.820),
RAIRO	(IF 1.393).

Published scientific papers have achieved altogether **449/589** citations (Scopus/Google Scholar) h-index di **14/15** (Scopus/Google Scholar).

The complete list of publications is shown in the following.

- N. articles in **international journals Q1** published in the last 5 years: **20** (+1 in review)
- N. articles in **international journals** published in the last 5 years: **9** (+0 in review)
- N. contribution in **international book monographs and chapters**: **2**
- N. proceeding, proceedings in **international conferences**: **16**
- N. proceeding, acts in **national conferences**: **6**

## BOOK MONOGRAPHS AND CHAPTERS

B2  
International Book  
Chapter  
Springer Nature

Sangiorgio, V., Parisi, F., Vito Graziano, A., Tina, G., Parisi, N., (2022, Accepted).  
**3D-printing of viscous materials in construction:  
New design paradigm, from small components to entire structures**  
*Springer Nature.*  
Contributed volume *Architecture and design for Industry 4.0: theory and practice*

B1  
International Book  
Monograph  
Springer Nature

Sangiorgio, V., Vargas, L.G., Fiorito F., Fatiguso, F., (2022).  
**New Approaches for Multi-Criteria Analysis in Building Constructions.  
User-Reporting and Augmented Reality to support the investigation.**  
*Springer Nature.* 10.1007/978-3-030-83875-1  
ISBN 978-3-030-83874-4

This book is focused on the challenges of digital transition in building construction, and potential solutions through the use of multi-criteria analysis. It provides clear explanations of proposed approaches from both a theoretical and practical point of view, including augmented reality and user-reporting.

## INTERNATIONAL JOURNAL Q1

- P20  
International journal Parisi, F., Sangiorgio, V. Parisi, N., Mangini, A.M., V. Fanti, M.P., Adam, J.M. (2023). **A new concept for large additive manufacturing in construction: Tower crane-based 3D printing controlled by deep reinforcement learning.** *Construction Innovation*. DOI: 10.1108/CI-10-2022-0278
- P19  
Architectural Science Review Volpe, S., Sangiorgio, V. Fiorito, F., Varum, H., (2022). **Overview of 3D construction printing and future perspectives: a review of technology, companies and research progression.** *Architectural Science Review*, 1-22. <https://doi.org/10.1080/00038628.2022.2154740>.
- P18  
Sustainability Sangiorgio, V., Parisi, F., Fieni, F., Parisim N., (2022). **The new boundaries of 3D printed clay bricks design: printability of complex internal geometries.** *Sustainability*. <https://doi.org/10.3390/su14020598>
- P17  
Engineering Failure Analysis Sangiorgio, V., Nettis, A., Uva, G., Pellegrino, F., Varum, H., and Adam, J M. (2022) **"Analytical fault tree and diagnostic aids for the preservation of historical steel truss bridges"** *Engineering Failure Analysis*, 105996. <https://doi.org/10.1016/j.engfailanal.2020.104637>
- P16  
Land Use Policy Vizzarri, C., Sangiorgio, V., Fatiguso, F. Calderazzi A. (2021) **"A Holistic Approach for the Adaptive Reuse Project Selection: the Case of the Former Enel Power Station in Bari"** *Land Use Policy*. <https://doi.org/10.1016/j.landusepol.2021.105709>
- P15  
Sustainability Volpe, S., Sangiorgio, V. Petrella, A., Coppola, A., Notarnicola, M., Fiorito, F. (2021). **Building envelope prefabricated with 3D printing technology.** *Sustainability*, 13(16), 8923. <https://doi.org/10.3390/su13168923>
- P14  
Structural Control and Health Monitoring Floris, I., Sangiorgio, V., Adam, J M., Uva, G., Rapido, M., Calderòn P.A. Madrigal, J. (2021) **"Effects of bonding on the performance of Optical Fiber Strain Sensors"** *Structural Control and Health Monitoring*, e2782. DOI: 10.1002/stc.2782
- P13  
Automation in Construction Sangiorgio, V., Martiradonna, S., Fatiguso, F., & Lombillo, I. (2021). **Augmented reality based-decision making (AR-DM) to support multi-criteria analysis in constructions.** *Automation in Construction*, 124, 103567. <https://doi.org/10.1016/j.autcon.2021.103567>
- P12  
Nature: Scientific Reports Sangiorgio, V., Fiorito, F., Santamouris, M., (2020) **"Development of a holistic urban heat island evaluation methodology"** *Nature: Scientific Reports*. DOI: 10.1038/s41598-020-75018-4. <https://www.nature.com/articles/s41598-020-75018-4>
- P11  
Safety Science Sangiorgio, V., Mangini, A. M., Precchiazzi I., (2020) **"A new index to evaluate the safety performance level of railway transportation systems"** *Safety Science*. <https://doi.org/10.1016/j.ssci.2020.104921>.
- P10  
Safety Science Sangiorgio, V., Parisi F., (2020) **"A multicriteria approach for risk assessment of Covid-19 in urban district lockdown"** *Safety Science*. <https://doi.org/10.1016/j.ssci.2020.104862>.
- P9  
Engineering Failure Analysis Sangiorgio, V., Uva G., Adam, J M., Scarcalli, L., (2020) **"Failure analysis of reinforced concrete elevated storage tanks"** *Engineering Failure Analysis*. <https://doi.org/10.1016/j.engfailanal.2020.104637>.
- P8  
Energy Policy Caporale, D., Sangiorgio, V., Amodio A., De Lucia C., (2020) **"Multi-criteria and Focus Group analysis for social acceptance of wind energy"** *Energy Policy*, 140 (2020): 111387. <https://doi.org/10.1016/j.enpol.2020.111387>.

- P7  
Structures Sangiorgio, V., Uva G., Aiello, M. A. (2020) "A Multi-criteria-based procedure for the robust definition of algorithms aimed at fast seismic risk assessment of existing RC buildings" *Structures*, vol. 24, pp. 766-782. Elsevier. <https://doi.org/10.1016/j.istruc.2020.01.048>.
- P6  
International Journal of Architectural Heritage Sangiorgio, V., Uva G., Adam, J M. (2020) "Integrated seismic vulnerability assessment of historical masonry churches including architectural and artistic assets based on macro-element approach" *International Journal of Architectural Heritage*, 1-14. <https://doi.org/10.1080/15583058.2019.1709916>.
- P5  
Engineering Failure Analysis Sangiorgio, V., Adam, J M., Uva, G., and Fatiguso, F. (2019) "A new index to evaluate exposure and potential damage to RC building structures in coastal areas" *Journal of Engineering Failure Analysis*, 100, 439-455. <https://doi.org/10.1016/j.engfailanal.2019.02.052>.
- P4  
Measurement Uva, G., Sangiorgio, V., Ruggieri, S., & Fatiguso, F. (2018). "Structural vulnerability assessment of masonry churches supported by user-reported data and modern Internet of things (IoT)." *Measurement*. 131, 183-192. <https://doi.org/10.1016/j.measurement.2018.08.014>.
- P3  
Journal of Performance of Constructed Facilities Sangiorgio, V., Pantoja, J., Varum, H., Uva, G., and Fatiguso, F. (2018). "Structural Degradation Assessment of R.C. Buildings: Calibration and Comparison of a Semeiotic - Based Methodology for Decision Support System." *Journal of Performance of Constructed Facilities*, 33(2), 04018109. [https://doi.org/10.1061/\(ASCE\)CF.1943-5509.0001249](https://doi.org/10.1061/(ASCE)CF.1943-5509.0001249).
- P2  
Journal of Performance of Constructed Facilities Sangiorgio, V., Uva, G., & Fatiguso, F. (2018) "User-Reporting Based Semeiotic Assessment Of Existing Building Stock At The Regional Scale." *Journal of Performance of Constructed Facilities* 32(6), 04018079. [https://doi.org/10.1061/\(ASCE\)CF.1943-5509.0001227](https://doi.org/10.1061/(ASCE)CF.1943-5509.0001227).
- P1  
Journal of Construction Engineering and Management Sangiorgio, V., Uva, G., & Fatiguso, F. (2017) "Optimized AHP to Overcome Limits in Weight Calculation: a Building Performance Application." *Journal of Construction Engineering and Management*, 144(2), 04017101. [https://doi.org/10.1061/\(ASCE\)CO.1943-7862.0001418](https://doi.org/10.1061/(ASCE)CO.1943-7862.0001418).

## INTERNATIONAL JOURNAL

- I9  
International journal Volpe, S., Sangiorgio, V. Petrella, A., Notarnicola, M., V. Varum, H., Fiorito, F., (2023). 3D printed concrete blocks made with sustainable recycled material. *VITRUVIO-International Journal Of Architectural Technology And Sustainability*. <https://doi.org/10.4995/vitruvioijats.2023.18832>
- I8  
Climate Sangiorgio, V., Fiorito, F., Bruno, S. (2022). Comparative Analysis and Mitigation Strategy for the Urban Heat Island Intensity in Bari (Italy) and in Other Six European Cities. *Climate*. 10(11), 598; <https://doi.org/10.3390/cli10110177>
- I7  
AIMS Materials Science Volpe, S., Petrella, A., Sangiorgio, V., Notarnicola, M., Fiorito, F. (2021) "Preparation and characterization of novel sustainable composites based on magnesium potassium phosphate cement for additive manufacturing." *AIMS Materials Science*. 10.3934/mat.2021039
- I6  
Environmental Engineering Science Sangiorgio, V., Capolupo, A., Tarantino, E., Fiorito, F., Santamouris, M., (2021) "Evaluation of absolute maximum urban heat island intensity based on a simplified remote sensing approach" *Environmental Engineering Science*
- I5  
TEMA Sangiorgio, V. (2021). Setting an effective User Reporting procedure to assess the building performance. *Tema: Technology, Engineering, Materials and Architecture*. In press, provisional DOI: 10.30682/tema0702d. <https://rivistatema.com/in-press/>



- I4  
RAIRO - Operations  
Research Sangiorgio, V., Di Pierro, B., Roccotelli, M., Silvestri, B. (2021) "Card Game Analysis for Fast Multi-Criteria Decision Making" *RAIRO - Operations Research*, <https://doi.org/10.1051/ro/2021059>
- I3  
ACTA IMEKO Sangiorgio, V., Martiradonna, S., Fatiguso, F., Uva, G. (2021) "Historical masonry churches diagnosis supported by an AHP- based Decision Support System." *ACTA IMEKO*, vol 10 (1), pp 6-14 . [http://dx.doi.org/10.21014/acta\\_imeko.v10i1.793](http://dx.doi.org/10.21014/acta_imeko.v10i1.793)
- I2  
Archeologia e Calcolatori Sangiorgio, V., Martiradonna S., Uva, G., Fatiguso, F. (2020) "AHP-based methodology integrating modern information logics for historical masonry churches diagnosis" *Archeologia e Calcolatori*.
- I1  
TEMA Sangiorgio, V. (2018). "An Optimized AHP-based methodology integrated in a Decision Support System for existing buildings safety." *Tema: Technology, Engineering, Materials and Architecture*, 4(1), 26-37. <https://doi.org/10.17410/tema.v4i1.165>.

## INTERNATIONAL CONFERENCE PROCEEDINGS

- C16  
International conference  
REUSO 2022 Volpe, S., Sangiorgio, V., Petrella, A., Notarnicola, A., Varum, H., Fiorito, F., (2022) "Material re-use in 3D printed building components" Xth ReUSO Edition, Documentation, Restoration and Reuse of Heritage Porto, Portugal 2-4 November 2022  
ISBN: (978-972-752-296-5 )
- C15  
International conference  
SAHC 2021 Sangiorgio, V., Uva, G., and. Adam, J.M., (2021) "Decision Support System for Vulnerability Assessment of Masonry Churches Including Architectural and Artistic Assets" SAHC2021 12th International Conference On Structural Analysis Of Historical Constructions, Barcelona, Spain.  
ISBN: 978-84-123222-0-0
- C14  
International conference  
COMPDYN 2021 Sangiorgio, V. Nettis, A., Uva, G., García-Cerezo J.A., Calderón, P., Varum, H., Adam, J.M. (2021) "Diagnostics of historical steel bridges: the case of the valencian railroad network" 8th International Conference on Computational Methods in Structural Dynamics and Earthquake Engineering " 28-30 June, 2021, (Athens, Greece). ISBN: 978-618-85072-3-4
- C13  
International conference  
SMC 2020 Sangiorgio, V., Martiradonna, S., Fatiguso, F., (2020) "Augmented Reality to Support Multi-Criteria Decision Making in Building Retrofitting." *IEEE International Conference on Systems, Man, and Cybernetics (SMC2020)*, Toronto, Ontario, Canada. ISBN: 978-1-7281-8527-9
- C12  
International conference  
CoDIT 2020 Di Pierro B., Fanti M.P., Roccotelli M., Sangiorgio V., (2020) "Industry 4.0: Roadmap for Applying Technologies in Shipbuilding and Manufacturing Sectors" 2020 7th International Conference on Control, Decision and Information Technologies (CoDIT 2020) Prague, Czech Republic. ISBN: 978-1-7281-5954-6
- C11  
International conference  
IMEKO 2019 Sangiorgio, V., Martiradonna S., Uva, G., Fatiguso, F. (2019) "Structural degradation measurement and diagnostics of historical masonry buildings" (2019) 2019 IMEKO TC-4 International Conference on Metrology for Archaeology and Cultural Heritage Florence, Italy. ISBN: 978-92-990084-5-4
- C10  
International conference  
SMC 2019 Uva, G., Sangiorgio, V., Ciampoli P., Leggieri, V., Ruggieri, S. (2019) "A novel rapid survey form for the vulnerability assessment of existing building stock based on the "Index Building" approach" 2019 IEEE International Conference on Systems, Man, and Cybernetics (SMC2019), Bari, Italia. ISBN: 978-1-7281-4569-3
- C9  
International conference  
SMC 2019 B. Di Pierro\*, V. Sangiorgio (2019) "Analysis of Industrial Changes and Enabling Technologies in Industry 4.0" 2019 IEEE International Conference on Systems, Man, and Cybernetics (SMC2019), Bari, Italia. ISBN: 978-1-7281-4569-3

- C8 International conference  
SMC 2019 A.M. Mangini\*, F. Parisi, I. Precchiazzi, V. Sangiorgio (2019) **"Visual screening for safety evaluation of train transportation system"** *2019 IEEE International Conference on Systems, Man, and Cybernetics* (SMC2019), Bari, Italia. ISBN: 978-1-7281-4569-3
- C7 International conference  
CoRASS 2019 Sangiorgio, V., Uva, G., Ruggieri, S., Adam, J M., (2019) **"Calibration of seismic vulnerability index for masonry churches based on AHP including architectural and artistic assets"** *CoRASS 2019*, Coimbra, Portugal. ISBN 978-989-20-9837-1
- C6 International conference  
CODIT 2019 A. M. Mangini, I. Precchiazzi, V. Sangiorgio **"Evaluation of Unavailability of the Railway Service"** on 2019 6th International Conference on Control, Decision and Information Technologies (CODIT'19). ISBN: 978-1-7281-0521-5
- C5 International conference  
SMC 2018 Sangiorgio, V., Iacobellis, G., Adam, J M., Uva, G., and Fatiguso, F. (2018) **"User-Reporting Based Decision Support System for Reinforced Concrete Building Monitoring"** *2018 IEEE International Conference on Systems, Man, and Cybernetics* (SMC2018), Miyazaki, Japan. ISBN: 9781538666500
- C4 International conference  
IMEKO 2017 Uva, G., Ruggieri, S., Sangiorgio, V., Fatiguso, F. (2017) **"Structural vulnerability assessment of masonry churches supported by user-reported data."** (2017) *IMEKO International Conference on Metrology for Archaeology and Cultural Heritage*, Lecce. ISBN:978-92-990084-0-9
- C3 International conference  
SOLI 2017 Sangiorgio, V., Martiradonna, S., Uva, G., & Fatiguso, F. (2017). **"An information system for masonry building monitoring."** *In Service Operations and Logistics, and Informatics (SOLI), 2017 IEEE International Conference* (pp. 230-235). IEEE. ISBN:978-1-5090-5847-1
- C2 International conference  
ACI 2016 Sangiorgio, V., Uva, G., and Fatiguso, F. (2016) **"Development of an innovative quality detection platform for reinforced concrete school buildings: an app for large scale supervising."** *Proceedings of the 4rd Workshop "The New Boundaries of Structural Concrete*, Capri. ISBN:9788898720149
- C1 International conference  
REHABEND 2016 Sangiorgio, V., Uva, G., & Fatiguso, F. (2016) **"A procedure to assess the criticalities of structures built in absence of earthquake resistant criteria."** *Congreso Euro-Americano Rehabend 2016 "Patología de la Construcción, Tecnología de la Rehabilitación y Gestión del Patrimonio"*. Graficas Iguna. ISBN: 978-84-608-7941-1

## NATIONAL CONFERENCE PROCEEDINGS

- N6 National conference  
Colloqui.AT.e 2022 Sangiorgio, V., Bruno, S., Fiorito, F. (2022) **"Comparative assessment of Urban Heat Island Intensity in Bari (Italy) and in 5 major European cities"** *Colloqui.AT.e 2022* Convegno Ar.Tec. ISBN: 978-88-945937-4-7
- N5 National conference  
Colloqui.AT.e 2022 Volpe, S., Sangiorgio, V., Fiorito, F. (2022) **"Design of an efficient 3D printed envelope supported by parametric modelling"** *Colloqui.AT.e 2022* Convegno Ar.Tec. ISBN: 978-88-945937-4-7
- N4 National conference  
AIA Ramírez-Solana, D., Sangiorgio, V., Redondo, J., Fanti, M.P., Mangini, A.M., Di Noia, T.,(2022) **"The 3D printed sonic crystal noise barrier."** In: 48° Convegno Nazionale AIA, Matera 25-27 Maggio 2022. ISBN: 978-88-88942-62-9, Matera, Italy, 25-27 Maggio 2022
- N3 Poliba PhD days Ruggieri, S., Sangiorgio, V., (2017) **"Information system for supporting of the assessment of masonry churches vulnerability."** *Poliba PhD days 2017* (Best paper award: second place winner).
- N2 Colloqui.AT.e 2017 Sangiorgio, V. (2017) **"An AHP-based methodology devoted to building safety monitoring in Decision Support System."** *Colloqui.AT.e 2017* Convegno Ar.Tec.
- N1 Colloqui.AT.e 2016 Sangiorgio, V. (2016) **"Information system for building monitoring"** *Colloqui.AT.e 2016*, Ar.Tec.

## Paper in review

1  
International journal  
In review

Ramírez-Solana, D., Sangiorgio, V., Parisi, N., Redondo, J., Mangini, A.M., Fanti, M.P. (2023) "3D Printed Metamaterial for Noise Mitigation: a Barrier to Protect Buildings from Train Brake Noise"

## SPEAKER AT CONFERENCES

- 17) Oral presentation  
*GIMC SIMAI YOUNG 2022* presentation named "Algorithmic processes to generate building components with complex or heterogeneous fillings".  
30 September, 2022, (Pavia, Italy).
- 16) Oral presentation  
Colloqui.AT.e 2022  
*Convegno Ar.Tec* presentation of the winning project named "FACE: Facade in Changing Environment" for the INNOVATI award.  
10 September, 2022, (Genova, Italy).
- 15) Oral presentation  
EERI PUCP  
Tercera Serie de Conferencias sobre Ingeniería Sísmica y Estructural, EERI PUCP STUDENT CHAPTER  
presentazione dal nome "Análisis Multicriterio de edificaciones resilientes".  
20 Giugno, 2022, (Lima, Peru).
- 14) Oral presentation  
SAHC 2021  
*SAHC2021 12th International Conference On Structural Analysis Of Historical Constructions*  
29-30 September, 2021, (Barcelona, Spain).
- 13) Oral presentation  
COMPdyn 2021  
*"8th International Conference on Computational Methods in Structural Dynamics and Earthquake Engineering"* 28-30 June, 2021, (Athens, Greece).
- 12) Oral presentation  
Online conference  
(by invitation)  
*"What have we learned and done so far: Social, medical and educational aspect of the COVID pandemic"*, discussion of the work: **"A Multicriteria Approach for Risk assessment of Covid-19 in Urban District Lockdowns"**, May 27, 2020, (Online conference, ICT 20 @ COVID 19, Croatia).  
<http://www.mipro.hr/ICT20COVID1906/tabid/208/language/en-US/Default.aspx>
- 11) Oral presentation  
Online workshop  
*"Modeling and control of the Covid 19 outbreak"* special international workshop for research on covid-19, presentation of the work: **"A Multicriteria Approach for Risk assessment of Covid-19 in Urban District Lockdowns"**, April 24, 2020, (Streaming workshop, Torino, Italy).
- 10) Oral presentation  
CoRASS 2019  
*3rd International Conference on Recent Advances in Nonlinear Design, Resilience and Rehabilitation of Structures, CoRASS 2019*, October 16-18, 2019, (Coimbra, Portugal).
- 9) Oral presentation  
IMEKO 2019  
*2019 IMEKO TC-4 International Conference on Metrology for Archaeology and Cultural Heritage*  
December. 7-10 (Florence, Italy).
- 8) Oral presentation  
SMC2019  
*2019 IEEE International Conference on Systems, Man, and Cybernetics (SMC2019)*, October 7-10, 2019, (Bari, Italy).
- 7) Oral presentation  
SMC2018  
*2018 IEEE International Conference on Systems, Man, and Cybernetics (SMC2018)*, October 7-10, 2018, (Miyazaki, Japan).
- 6) Oral presentation  
SOLI2017  
*In Service Operations and Logistics, and Informatics (SOLI), 2017 IEEE International Conference* (pp. 230-235). 18-19-20 September 2017 (Bari, Italy).
- 5) Oral presentation  
Colloqui.AT.e 2017  
*Convegno Ar.Tec.* 28-29 September 2017 (Ancona, Italy).

- 4) Oral presentation  
Colloqui.AT.e 2016 *Colloqui.AT.e 2016* Convegno Ar.Tec. 13 October 2016 (Matera, Italy).
- 3) Oral presentation  
NBSC 2016 *Proceedings of the 4th Workshop "The New Boundaries of Structural Concrete"*. September 29 – October 1 2016 (Capri, Italy).
- 2) Oral presentation  
REHABEND 2016 *Congreso Euro-Americano Rehabend 2016 "Patología de la Construcción, Tecnología de la Rehabilitación y Gestión del Patrimonio"* 24 – 27 May 2016 (Burgos, Spagna).
- 1) Oral presentation  
MTEMM 2017 *Methods and Technologies for Environmental Monitoring and Modelling*. 14 - 16/09/2017 (Matera, Italy).

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## SCIENTIFIC RESPONSIBILITY IN COMPETITIVE CALLS – RESEARCH FUNDING & TENDERS

In recent years he participated in the writing of an international research project admitted to funding.

- APOST 2020**  
(European Social Fund, 2014-2020)
- Scientific responsibility for an international research project admitted to funding based on the competitive call "**APOST 2020**" which provides for peer review (funded by the European Social Fund, 2014-2020).
- The research is aimed at reconciling the classic **building engineering concepts, novel technologies and performance analysis approaches** to investigate existing building and architectural heritage (Application of Augmented Reality, IoT, 3D printing and Decision Support Systems).

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## PARTICIPATION IN COMPETITIVE RESEARCH PROJECTS

In recent years he participated as a researcher (also involved in the writing of the project proposal) in the ERIES (2022), INTERREG ADRION\_FUTURE 4.0 and H2020\_ELVITEN projects and he attended the experimental phases of the BIA 2014- 59036-R and MSCA-ITN-2016-ETN projects.

- RP5 - SAFE 3D PRINTED-CS ERIES (2022)**  
(Transnational Access First Call - HORIZON-INFRA-2021-SERV-01-07)
- SAFE 3D PRINTED-CS Seismic and energy Assessment of the perFormancE of 3D PRINTED Concrete Structures: tests on thermal and seismic performances**
- The research intends to study the best 3D printing solutions for the structural and thermal performance of the printed wall for a full assessment of the environmental performance of a final 3D printed unit.
- Transnational Access ERIES: Engineering Research Infrastructures for European Synergies (2022-2026) Funded under the Horizon Europe Framework Programme Ref: 101058684-HORIZON-INFRA-2021-SERV-01-07
- RP4 -ELVITEN Horizon 2020**  
Amount 9.500.000,00 €
- Electrified L-category Vehicles Integrated into Transport and Electricity Networks\_ Horizon 2020 \_ELVITEN** demonstrates how electric light vehicles (EL-Vs) can be used in urban areas and be integrated into the existing transport network of six European cities.
- RP3 - MSCA-ITN-2016-ETN**  
Amount 3.880.324,00 €
- Fibre Nervous Sensing Systems (MSCA-ITN-2016-ETN)**
- Activity: Finite Element Modelling and Experimental Investigation of the Strain Transfer in Bonded Optical Fiber Sensors.
- RP2 -BIA 2014- 59036-R**  
Amount 157.300,00 €
- BIA 2014- 59036-R \_** Sistemas inteligentes para la monitorización y evaluación de edificios de obra de fabrica tras ser sometidos a acciones extraordinarias: riesgos geotécnicos, fuego, impactos" (Universitat Politècnica de València, Spagna).
- Participation to the first tests to study the differential settlement in masonry cross vaults.**

**RP1 - Future 4.0 (ADRION)**  
Amount: 1.000.726,28 €

**INTERREG ADRION\_FUTURE 4.0.**

Project focuses on the application and training of new enabling technologies of industry 4.0 in the Adriatic-Ionian area. Among the various enabling technologies 3D printing and augmented reality have been analyzed.

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**INTERNATIONAL RESEARCH ACTIVITIES AND FELLOWSHIP:**

In recent years he participated as PhD Visiting Researcher into many research projects in foreign universities.

**University College London**  
(London, UK)

18/09/2022 – 24/09/2022 - **Visiting Professor** and **Lecturer** for PhD Course.

**Pontificia Universidad  
Católica del Perú**  
Lima, Peru

01/07/2021 – 01/02/2022 - **Visiting Professor** and **Lecturer** for the Master's degree in Civil Engineering.

**Polytechnic of Bari**  
Bari, Italy

A.Y. 2021-2022 - **Lecturer** for the Doctoral School of the Polytechnic of Bari (SCUDO)  
A.Y. 2020-2021 - **Lecturer** for the Doctoral School of the Polytechnic of Bari (SCUDO)  
18/11/2018 – 01/09/2020 - **Research grant holder**  
01/10/2015–28/01/2019 - **PhD student scholarship**

**Universidade do Porto**  
Porto, Portugal

20/11/2020 – 31/10/2021- **Visiting Post-Doc**  
15/10/2017–16/01/2018 **Visiting PhD student**

**Universitat Politècnica de  
València**  
Valencia, Spain

01/09/2020 – 01/01/2022- **Post-doc position**  
01/07/2019– 04/10/2019 **Visiting PhD**  
20/01/2018– 03/06/2018 **Visiting PhD student**

2016  
**ACI Italy**

Member of the American Concrete Institute, Italy Chapter. (Since 2016)

15/02/2016  
**Register of Engineers Bari**

Member of the Order of Engineers of the Province of Bari since 2016. Section A, Civil and Environmental sectors.

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**TECHNOLOGICAL TRANSFER ACTIVITY OF APPLIED EXPERIMENTAL RESEARCH:**

02/02/2015– today  
**No-profit association  
FabLab Bitonto:** the  
mission of the digital  
innovation

**Associate Member, and board of directors of the No-profit association "FabLab Bitonto"**

From the year 2015 Valentino is a member of the no-profit association FabLab Bitonto (an association for innovation, testing and development of ideas by providing access to tools and skills in particular in the Industry 4.0 context.).

10/01/2018–Today  
Competition winner: "PIN"  
Participation in the creation  
of a new business

**Founder of the S.r.l.s. FabCraft hosted in the Technological Pole Polytechnic of Bari, BA (Italy)**

The FabCraft Srl is born thanks to the win of the regional call "PIN Pugliesi Innovativi" of the "CLIMB3D" project. The project is aimed at the design, **production of new building components for the indoor climbing gyms**. In particular, the **structural climbing panels** and the **climbing holds** are designed and realized by use of innovative digital manufacturing technologies such as 3D printing and CNC drilling machines.

01/11/2019–Today  
**Safe Bridge:** The APP for a  
fast damages data  
acquisition

Collaboration with AutoLogS (spin-off Polytechnic of Bari) and CALSENS (spin-off Universitat Politècnica de València)

Development of an APP (for smart devices) for a user-friendly structural survey and monitoring of steel bridges (application in many bridges of the Valencian region).

Tasks: Relationship promoter, development of structural investigations procedures and supervision of the technical part.

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## INTERNATIONAL TEACHING ACTIVITY:

Dr. Sangiorgio has been Visiting professor in in the **University College London (UK)**, and **Pontificia Universidad Católica del Perú (Peru)**.

A.Y. 2020-2021  
Visiting Professor PUCP,  
Peru

**Visiting Professor and Lecturer in Pontificia Universidad Católica del Perú (48 Hours)**

**Teaching name: "Métodos Multicriterio y Análisis de Multirriesgo para Edificios Resilientes".**

Master's degree in Civil Engineering

-The course offers an overview of new technologies within the field of multi-risk analysis (including Urban Heat Island) applied in the built environment.

A.Y.2021-2022  
Visiting Professor  
UCL (London, UK)

**Visiting Professor in the University College London (London, UK) for a PhD course (20 hours)**

**Teaching name: "MULTI-CRITERIA APPROACHES AND MULTI-RISK ANALYSIS FOR RESILIENT BUILDINGS"**

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## TEACHING ACTIVITY:

Dr Sangiorgio is a Lecturer in different courses such as **Integrated design**, **digital manufacturing** and **multi-risk analysis** for students of Bachelor's, Master's degrees. In addition, He is Lecturer for the PhD program (Academic Year 2020-2021 and 2021-2022) of the Polytechnic of Bari.

### PhD COURSE

A.Y.2021-2022  
PhD Course  
Polytechnic of Bari  
30/06/2020

**Teaching name: "New Frontiers Of Scientific Research Based On 3d Printing In Structural And Building Engineering".**

Polytechnic of Bari (Italy).

This course provides an overview of the various 3D printing technologies focused on the possible research application in the field of construction sector.

A.Y.2020-2021  
PhD Course  
Polytechnic of Bari  
30/06/2020

**Teaching name: "MULTI-CRITERIA APPROACHES APPLIED TO MULTI-RISK ANALYSIS".**

Polytechnic of Bari (Italy).

The proposed teaching program aims at preparing technically qualified PhD students to face interdisciplinary multi-risk analysis by investigating Multi-Hazard, Vulnerability and Exposure through multicriteria decision methods (MCDM).

## Bachelor's and Master's degree

From A.Y.2022-2023 Lecturer for the Bachelor's degree	Course (30 hours) of "3D scanning and printing technologies" Università degli Studi "G. d'Annunzio"Chieti – Pescara
From A.Y.2022-2023 Lecturer for the Bachelor's degree	Course (60 hours) of "Technologies for the feasibility of the project" Università degli Studi "G. d'Annunzio"Chieti – Pescara
From A.Y.2021-2022 Lecturer for the Master's degree	Course (60 hours) of "Buildign construction technologies" Università degli Studi "G. d'Annunzio"Chieti – Pescara
A.Y.2019-2020 Lecture in TU Delft 15/11/2019	Lecture name: "The New Boundaries of Industry 4.0 in the Built Environment (Technologies, Designer, Workers and Users)". Delft University of Technology TU-Delft Faculty of Architecture. (Holland). Visiting for three days.
2018–2020 Support in the teaching High Performance Building Envelope Design	Support in the teaching of <b>High Performance Building Envelope Design</b> : examinations for the academic years 2018/2019 and 2019/2020  Organization of exercises, examinations - Review of students' examinations – oral examinations
2018–2020 Support in the teaching Fundamentals of Integrated Building Design	Support in the teaching of <b>Fundamentals of Integrated Building Design</b> : examinations for the academic years 2018/2019 and 2019/2020  Organization of exercises, examinations - Review of students' examinations – oral examinations
2018–2020 Support in the teaching Technical architecture	Support in the teaching of <b>Technical architecture</b> : examinations for the academic years 2018/2019 and 2019/2020  Organization of exercises, examinations - Review of students' examinations – oral examinations
04/06/2018–24/06/2018 Call for teaching support Technical Architecture	<b>Competition winner</b> for the supplementary educational activities for the academic year 2018/2019  Teaching support in the " <b>Technical Architecture</b> " course, DICATECh, Polytechnic of Bari, Bari (Italy) Organization of lessons, exercises, and workshops - Review of students' year projects.
01/03/2017–01/09/2017 Call for teaching support Historical building rehabilitation	<b>Competition winner</b> for the supplementary educational activities for the academic year 2017/2018  Teaching support in the " <b>Historical building rehabilitation + maintenance and conservation of the existing building stock</b> " course, DICATECh, Polytechnic of Bari, Bari (Italy) Organization of lessons, exercises, and workshops, student project with use of BIM software - Review of students' year projects.

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## PhD THESIS SUPERVISION:

Overall, he is a SUPERVISOR of 2 PhD theses and an EXTERNAL EXAMINER of 1 PhD thesis

<b>EXTERNAL EXAMINER</b> Doctoral Candidate: Vicent Penadés Plà	<b>EXTERNAL EXAMINER of a PhD thesis in Building Engineering - Universitat Politècnica de València</b> Thesis: <i>"Life-cycle sustainability design of post-tensioned box-girder bridge obtained by metamodel-assisted optimization and decision-making under uncertainty"</i>
<b>SUPERVISOR</b> PdD student Dayán Durán	<b>Supervisor of a PhD thesis in Building Engineering - D'Annunzio University of Chieti - Pescara.</b> Theme of the research: <i>"Integration of Building Information Modeling procedures and Monitoring through Optical Fiber Sensors in 3D Construction Printing"</i>
<b>External SUPERVISOR</b> PdD student Stelladriana Volpe	<b>Supervisor of a PhD thesis in Building Engineering - Polytechnic of Bari.</b> Theme of the research: <i>"Development and production of construction systems with Construction Automation and 3D Construction Printing techniques."</i>

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## MASTER THESIS SUPERVISION:

Overall, he was co-supervisor or supervisor of **12** Master's Degree theses. Among the **50% of the students manage to be a co-author of a scientific publication indexed in Scopus after their Thesis.**

Master-Silvia Martiradonna	Research topic: <i>"Innovative approach for large-scale monitoring of churches."</i> - Polytechnic of Bari
Master - Vanessa Brizzi	Research topic: <i>" Indirect methods for the seismic vulnerability evaluation of churches: analysis of the criticalities and applications to case studies."</i> - Polytechnic of Bari
Master - Michele Stefano Rotola	Research topic: <i>"User-reporting tools in the performance evaluation of existing buildings."</i> - Polytechnic of Bari
Master - Lucia Scarcelli	Research topic: <i>"Structural degradation assessment of elevated storage tanks: test site in Valencia region."</i> - Polytechnic of Bari
Master - Silvia Tarquinio	Research topic: <i>"Use of modern Information Technologies in the fast vulnerability evaluation."</i> - Polytechnic of Bari
Master - Rapido Monica	Research topic: <i>"Finite element modelling and experimental investigation of the strain transfer in bonded Optical Fiber Sensors"</i> - Polytechnic of Bari
Master - Giovanni Giardinelli	Research topic: <i>"The critical problem structural modelling of RC Elevated Storage Tanks."</i> - Polytechnic of Bari
Master - Alessandro Serra	Ricerca sul tema: <i>"Prefabricated technologies for high performance envelopes - 3D printing applied to brick elements."</i>
Master - Francesco Pellegrino	Research topic: <i>"The historical riveted steel bridges of the Valencian railroad network ."</i> - Polytechnic of Bari
Alessandro Serra	Ricerca sul tema: <i>"Tecnologie prefabbricate per involucri ad alte prestazioni – Stampa 3D applicata ad elementi in laterizio."</i>
Irene Lamacchia	Ricerca sul tema: <i>"Componenti di involucro prodotti mediante stampa 3D per edifici ad alte prestazioni."</i>



**OTHER TEACHING ACTIVITY:**

A.Y.2019-2020  
Official Workshop for the  
Engineers of Bari

**Workshop on the enabling technologies of the industry 4.0** during the international conference of IEEE Systems, Man, and Cybernetics Conference, October 10, 2020, Bari (Italy).

A.Y.2019-2020  
Training for the national  
register of engineers

**Workshop about Enabling Technologies of Industry 4.0** during the IEEE Systems, Man, and Cybernetics Conference, October 10, 2020, Bari (Italy).

A.Y.2017-2018  
3D printing teaching

**Teaching of 3D printing and 3D Modelling applied to the building heritage** a high school class visiting Polytechnic of Bari A.Y.2016/2017

A.Y.2017-2018  
3D printing teaching

**Teaching in the ARCHITECTURAL DESIGN WORKSHOP 2017** Polytechnic of Bari – Architectural Design Laboratory / Department of Civil Engineering and Architecture - DICAR

A.Y.2016-2017  
3D printing teaching

**Teaching of 3D printing and 3D Modelling** Software in the secondary school "Volta - De Gemmis" Bitonto (Ba)

**SERVICE AND MANAGEMENT ACTIVITIES****UNIVERSITY MANAGEMENT**

18/10/2017–today  
University Laboratory  
Management

Since 2017 Dr. Sangiorgio is involved in the Management of the university FabLab at Polytechnic of Bari, BA (Italy) <http://www.fablabpoliba.org>

This technological centre is characterized by a set of industrial machines and Computer Numerical Control machines, directed by open-source software platforms.

In particular machines such as: 3D printers (FDM e DLP / SLA); Laser cutters, CNC drilling machines, Scanner 3D, Workstation e software for 3D modelling. <http://www.fablabpoliba.org>

**EDITORIAL BOARD**

**Topic Editor** Sustainability

**Topic Editor** for the international journal Sustainability (IF: 3.889).

**Guest Editor** Sustainability

**Guest Editor** for the international journal Sustainability (IF: 3.889).

**Editor of the special issue:** Automation and Digital Fabrication in the Building Construction Process.

**Topic Editor**  
Frontiers in Built  
Environment

**Topic Editor for the international journal Frontiers in Built Environment (IF: 1.897)**

**Review Editor**  
Frontiers in Built  
Environment

**Review Editor for the international journal Frontiers in Built Environment (IF: 1.897)**

**Editorial board member**  
Journal of Building Design  
and Environment

Member of the Editorial board of the **Journal of Building Design and Environment**

## CONFERENCE ORGANIZATION

<b>Program Chairs</b> VIPERC	<b>Program Chairs</b> of the international conference VIPERC2023: 2nd International Conference on Visual Pattern Extraction and Recognition for Cultural Heritage Understanding. Milan, June 30 - July 5, 2024
<b>Organizzatore Special Session</b> <b>WCEE</b>	<b>3D Construction Printing in Structural and Seismic Engineering.</b> Zadar, Croatia – 25-26 September 2023
<b>Conference organization</b> IAMS2022	Invited in the <b>Scientific Committee</b> of IAMS2022 1st Iberian-American Conference on MATERIALS AND STRUCTURES for sustainable development. University of Porto, Portugal. On 26-28 January 2022
<b>Chair ReUSO 2022</b> Session: <b>6A</b>	<b>Chair</b> of the regular session <b>6A of the conference ReUSO 2022</b> November 2-4, 2022 – Porto, Portugal
<b>Chair SMC 2020</b> Session Augmented Reality Systems	<b>Chair</b> of the regular session <b>Augmented Reality Systems</b> IEEE SMC 2020 SMC 2020 October 11-14, 2020 – Toronto, Canada
<b>Associate Editor</b> IEEE	<b>Associate Editor</b> for IEEE SMC 2020 SMC 2020 October 11-14, 2019 – Toronto, Canada
<b>Associate Editor e</b> Special Session Organizer and Chair IEEE	<b>Associate Editor</b> for IEEE SMC 2019 SMC 2019 October 6-9, 2019 – Bari, Italy <b>Special Session Organizer</b> named "The New Boundaries of Environmental, Territorial and Building Risk Analysis"

## REVIEWER IN INTERNATIONAL JOURNALS

Reviewer international journal	<b>Reviewer of the international journal "Nature: Scientific Reports"</b>
Reviewer international journal	<b>Reviewer of the international journal "Automation in Construction"</b>
Reviewer international journal	<b>Reviewer of the international journal "Journal of Performance of Constructed Facilities"</b>
Reviewer international journal	<b>Reviewer of the international journal "Architectural Science Review"</b>
Reviewer international journal	<b>Reviewer of the international journal "Journal of Cleaner Production"</b>
Reviewer international journal	<b>Reviewer of the international journal "Journal of Asian Architecture and Building Engineering"</b>
Reviewer international journal	<b>Reviewer of the international journal "Structures"</b>
Reviewer international journal	<b>Reviewer of the international journal "International Journal of Human-Computer Interaction"</b>
Reviewer international journal	<b>Reviewer of the international journal "Wood Material Science and Engineering"</b>

Reviewer international journal	<b>Reviewer of the international journal "Technological Forecasting &amp; Social Change"</b>
Reviewer international journal	<b>Reviewer of the international journal "Omega"</b>
Reviewer international journal	<b>Reviewer of the international journal "Structures"</b>
Reviewer international journal	<b>Reviewer of the international journal "Heliyon"</b>
Reviewer international journal	<b>Reviewer of the international journal "Architectural Engineering and Design Management "</b>
Reviewer international journal	<b>Reviewer of the international journal "Sustainable Cities and Society"</b>
Reviewer international journal	<b>Reviewer of the international journal "Ain Shams Engineering Journal"</b>
Reviewer international journal	<b>Reviewer of the international journal "Buildings" MDPI</b>
Reviewer international journal	<b>Reviewer of the international journal "Sustainability" MDPI</b>
Reviewer international journal	<b>Reviewer of the international journal "Acta Geophysica" MDPI</b>
Reviewer of the conference proceeding	<b>Reviewer of the international conference "Service Operations and Logistics, and Informatics (SOLI), 2017 IEEE International Conference"</b>
Reviewer of the conference proceeding	<b>Reviewer of the international conference "2018 IEEE International Conference on Systems, Man, and Cybernetics (SMC2018) "</b>
Reviewer international journal	<b>Reviewer of the international journal "The Open Civil Engineering Journal"</b>

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## AWARDS

31/12/2021– data attuale ARTEC INNOVATI AWARD	<p>Victory of the project FACE (FAcade in Changing Environment) at the AR-TECH INNOVATI AWARD (Italian call for innovative architectural engineering projects by young researchers, one of the two award-winning projects).</p> <p>The team that involved six researchers and four Italian universities.  <b>Principal Investigator: Valentino Sangiorgio</b>, UniCh (Pescara, Italia)  Francesco Carlucci , Poliba (Bari, Italia)  Alessandra Martinelli, Poliba (Bari, Italia)  Ludovica Maria Campagna, Poliba (Bari, Italia)  Alessandro Lanzolla, UniBas (Matera, Italia)  FRANCESCO SOMMESE, UniNa (Napoli, Italia)</p> <p>FACE - FAcade in Changing Environment is a multidisciplinary project involving AdaptiveFacades, MultiRiskAnalysis, AdditiveManufacturing and DigitalTwin.</p>
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## TECHNICAL SKILLS

Buildings Failure Damage and Multi-Risk Assessment	Knowledge in the field of building performance analysis (Structural and thermal); Knowledge in the field of <b>Multi-risk</b> evaluation and urban resilience
Decision Analysis	Knowledge in the field of building pathologies, management, monitoring and existing buildings refurbishment and energy retrofiting;
Mathematical Optimization	Knowledge of <b>multi-criteria decision-making</b> methods, in particular of the 'Analytic Hierarchy Process'; Knowledge of <b>mathematical optimization</b> ;
Digital fabrication	Seismic vulnerability; <b>Calibration</b> of Index and Models;
Additive manufacturing	Knowledge of <b>Urban Heat Island</b> Intensity evaluation; <b>Fiber optic</b> application in <b>structural health monitoring (Fusion Splicing, Bonding, Coating removal)</b> ;
High precision manual work	<b>User-Reporting</b> based procedure for data acquisition;
Structures monitoring	<b>Technologies of the Industry 4.0</b> including <b>3D Printing</b> , Digital manufacturing, Augmented Reality; <b>Methodologies for Definition, Calibration and Validation of Safety Indexes</b> ;
Statistical Analysis	<b>Approaches for Sensitivity Analysis</b> ; <b>Statistical Analysis</b> (Principal Component Analysis, Factor Analysis, Varimax Rotation, Jackknife approach, Sensitivity Analysis, Numerical Incremental Analysis, Cubic Regression Spline). <b>Modern Approaches for structure monitoring.</b>

## SOFTWARE

Ansys (Thermal and structural)	Intermediate user
Micron Optics ENLIGHT Software	Intermediate user
SAP 2000	Basic user
Parametric design (Grasshopper)	Advanced user
Excel	Advanced user
Revit	Basic user
MATLAB	Basic user
Modelling Software (Autocad, SketchUp Meshlab, Meshmixer)	Advanced user
Slicer software: 3D printing (e.g. Cura, PreForm)	Advanced user
Software for Fotogrammetry	Basic user
Ansys (thermal analyses)	Basic user
3D scanning software	Intermediate user
ArtCam	Advanced user
CNC machines software	Advanced user
Photoshop	Advanced user
GIS	Basic user

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Aware of the sanctions in the event of untruthful declarations, the formation or abuse of false documents, referred to in art. 76 of Presidential Decree 445/2000, I declare that the above is true.

Pescara, 08/06/2023

PhD Eng. Valentino Sangiorgio\_\_\_\_\_