

**Francesco Fiorito**

MSc in Building Engineering

PhD in Building Engineering

Full Professor of Architectural Engineering

SCIENTIFIC AND TEACHING CURRICULUM

update: 07/03/2023

---

**BRIEF INTRODUCTION:**

Francesco Fiorito (MEng, PhD) is Full Professor of Architectural Engineering in the Department of Civil, Environmental, Land, Building Engineering and Chemistry (DICATECh) of Polytechnic University of Bari (Italy), and Senior Visiting Fellow in the School of Built Environment of the University of New South Wales (Australia). Prior to joining the Polytechnic University of Bari, he has been Associate Professor of High-Performance Architecture at the University of New South Wales, Australia (2016) and Senior Lecturer in Architectural Technology at the University of Sydney, Australia (2011-2016). His main research expertise is in facade engineering and design. In recent years his research has focused on the development of technologies and systems for adaptive facades, which actively respond to variable outdoor conditions, mitigating Urban Heat Island effects and improving indoor comfort. Francesco in the last 10 years has been involved as Chief Investigator in several research projects funded by public and private bodies in Europe and Australia. Moreover, he authored more than 100 research outputs (monographs, journal articles, chapters of books, conference proceedings). Based on the impact of his research outputs, Francesco has been included in the list of best 2% researchers within Ioannidis' database. Francesco is the Special Issue Editor of the international Journal Energy and Buildings and Associate Editor of the international journals Architectural Science Review and e-Prime; moreover, he is member of the editorial board of several international journals (Energy and Buildings, Climate, Energies). For his outstanding contribution to science and technology, in 2020 Francesco has been elected as fellow of the World Society of Sustainable Energy Technologies.

---

## PERSONAL INFORMATION:

civil status: married, one son  
nationality: Italian, Australian  
date and place of birth: 09/03/1978, Bari (Italy)  
home address: via Dante Alighieri 51, Bari, Italy  
Telephone: mob. +39 3451029922  
E-mail: [francesco.fiorito@poliba.it](mailto:francesco.fiorito@poliba.it)  
[f.fiorito@unsw.edu.au](mailto:f.fiorito@unsw.edu.au),  
[f.fiorito78@gmail.com](mailto:f.fiorito78@gmail.com)  
Languages spoken: Italian (mothertongue), English (proficient professional use)  
ORCID ID: 0000-0002-4554-738X  
Scopus ID: 54421768200  
GoogleScholar Profile: <http://scholar.google.com/citations?user=yRvGQMQAAAAJ&hl=en>  
ResearchGate Profile: [https://www.researchgate.net/profile/Francesco\\_Fiorito](https://www.researchgate.net/profile/Francesco_Fiorito)  
LinkedIn Profile: <https://au.linkedin.com/in/francesco-fiorito-5097b033>

---

## EDUCATION, TRAINING AND QUALIFICATIONS:

- 04/2018 – 04/2027 Qualification as **1<sup>st</sup> Tier Professor** (Full Professor) in the National Scientific Qualification (art. 16 of the Law 30/12/2010 nr. 240). Scientific Field **08/C1: Design and Technological Planning of Architecture**.
- 01/2015 – 01/2021 Qualification as **2<sup>nd</sup> Tier Professor** (Associate Professor) in the National Scientific Qualification (art. 16 of the Law 30/12/2010 nr. 240). Scientific Field **08/C1: Design and Technological Planning of Architecture**.
- 01/2012 – 03/2012 Short Course “Principles and Practice of University Teaching and Learning” organized by the Institute of Teaching and Learning of The University of Sydney, Sydney (NSW, Australia).
- 02/2012 – 03/2012 Short Course “Foundation of Research Supervision” organized by the Institute of Teaching and Learning of The University of Sydney, Sydney (NSW, Australia).
- 07/2006 PhD in Building Engineering at Politecnico di Bari (Italy), research on: “**Control of natural light. Technology and Innovation**” supervisor: prof. G. Fuzio, PhD coordinator: prof. G. De Tommasi.
- 08/2005 – 09/2005 Participation to the “ISES SOLAR ACADEMY – Integration of Solar Technologies in Building Design – Freiburg 2004” organized by ISES – International Solar Energy Society at Catholic Academy, Freiburg im Breisgau (Germany).
- 09/2002 Qualification as Chartered Professional Engineer, obtained at Politecnico di Bari (final mark: 140/140).
- 12/2001 MSc in *Building Engineering* at Politecnico di Bari (Italy). Final mark 110/110 cum laude, equivalent to Honours Class 1. Final dissertation on “**External**

	<b>wall between technology and energy</b> ", supervisor prof. G. Fuzio, co-supervisor prof. T. Contursi.
12/2000	Participation in the training course "PV systems: technical and architectural design" organized by "ISES Italia" - Verona.
06/1996	High School Diploma, Scientific High School "Istituto Di Cagno Abbrescia" in Bari. Final mark 60/60.

---

## AFFILIATIONS:

Fellow of the World Society of Sustainable Energy Technologies.

Chartered Professional Engineer, enrolled in the register of Engineers of the Province of Bari (ID 6530), section A, fields Civil and Environmental Engineering, Industrial Engineering, Information Technology Engineering.

Member of the International Solar Energy Society (ISES) – Freiburg I. B. (Germany).

Member of the Italian Association of Architectural Engineering (Ar.Tec.)

---

## ACADEMIC EXPERIENCE

10/2022 to date	<b>Full Professor</b> of Architectural Engineering at the Department of Civil Environmental, Land, Building Engineering and Chemistry (DICATECh) of Polytechnic University of Bari (Italy). Scientific field: ICAR/10 Architectural Engineering.
12/2016 – 09/2022	<b>Associate Professor</b> in Architectural Engineering at the Department of Civil Environmental, Land, Building Engineering and Chemistry (DICATECh) of Polytechnic University of Bari (Italy). Scientific field: ICAR/10 Architectural Engineering.
04/2020 – 04/2023	<b>Senior Visiting Fellow</b> at the school of Built Environment, University of New South Wales, Sydney (NSW, Australia). Field of research: 120104 Architectural Science and Technology.
04/2018 – 04/2020	<b>Adjunct Associate Professor</b> at the Faculty of Built Environment Faculty of Built Environment, School of Architecture & Design, University of New South Wales, Sydney (NSW, Australia).
02/2016 – 12/2016	<b>Associate Professor</b> in High Performance Architecture (level D), at the Faculty of Built Environment, School of Architecture & Design, University of New South Wales, Sydney (NSW, Australia). Field of Research: 120104 Architectural Science and Technology.
01/2014 – 01/2016	<b>Senior Lecturer</b> in Architectural Technology (level C) at the Faculty of Architecture, Design and Planning, The University of Sydney, Sydney (NSW, Australia). Field of Research: 120104: Architectural Science and Technology.

- 11/2011 – 12/2013      **Lecturer** in Architectural Technology (level B) at the Faculty of Architecture, Design and Planning, The University of Sydney, Sydney (NSW, Australia).  
Field of Research: 120104 Architectural Science and Technology
- 10/2007 – 11/2011      **Short-term Lecturer** in Building Components Design at the I Faculty of Engineering of Politecnico di Bari (Bari – Italy). Scientific Field: ICAR/10 Architectural Engineering.

# 1. TEACHING

## 1.1. MEMBER OF THE BOARD OF PROFESSORS OF PHD COURSES, AND OFFICIAL ACTIVITIES FOR PHD COURSES.

At **Polytechnic University of Bari**:

- **Member of the board of professors** of the PhD Course in “Risk and Environmental, Land and Building Development” for XXXVI, XXXVII, XXXVIII cycles.
- **Member of the board of professors** of the PhD course in “Engineering for Sustainability and Safety of Civil and Industrial Constructions”, in collaboration with the University of Salento and ITC institute of Italian National Research Council (CNR), for XXXVIII cycle.
- **Responsible for course** Adaptive technologies for the mitigation of Urban Heat Island and Climate Change Effects (3 credits, SSD ICAR/10, PhD School of Polytechnic University of Bari). Course offered to PhD students enrolled in any PhD program offered at the Polytechnic University of Bari. The aim of the course is to provide students with the knowledge of the effects of climate change and Urban Heat Island (UHI) on built environment. The course will also provide detailed knowledge on the techniques and technologies to adapt the building fabrics to the effects of climate change and UHI and to counterbalance the temperature increase. *Role: Course Convenor and Lecturer for academic years 2016/17, 2017/18, 2019/20, 2020/21.*

At the **University of New South Wales**:

- Primary supervisor for PhD and MPhil students (2016).

At the **University of Sydney**:

- Primary supervisor of PhD and MPhil students (2013-2016).
- Completion of the course “Foundation of Research Supervision” (2012)

Overall, I have supervised to completion 8 PhD theses, I am currently supervisor of 6 PhD students. In particular:

At **Polytechnic University of Bari**, since 2019, supervisor of the following PhD students:

- **Francesco Carlucci**. XXXV cycle. Expected year of completion: 2023
- **Ludovica Maria Campagna**. XXXVI cycle. Expected year of completion: 2024
- **Alessandra Martinelli**. XXXVI cycle. Expected year of completion: 2024
- **Stelladriana Volpe**. XXXVII cycle. Expected year of completion: 2025
- **Angelica Rota**. XXXVIII ciclo. Expected year of completion: 2026
- **Vito Lamberti**. XXXVIII ciclo. Expected year of completion: 2026

At the **University of New South Wales, Faculty of Built Environment**, since 2016, I have supervised or co-supervised the following PhD students:

- **Aysu Kuru**, research on “Biomimetic building facade components for thermal comfort”. Thesis submitted and PhD in Architecture granted. Role: Primary Supervisor.
- **Siliang Yang**, research on “Studies on optimal application of photovoltaic systems for commercial buildings in Australia”. Thesis submitted and PhD in Architecture granted. Role: Primary Supervisor.

- **Samin Marzban**, research on “Minimizing carbon emissions of single-sided ventilated residential buildings by reducing energy consumption meanwhile improving indoor comfort”. Thesis submitted and PhD in Architecture granted. Role: co-Supervisor.

At **The University of Sydney, Faculty of Architecture, Design & Planning** since 2012, I have supervised or co-supervised the following PhD students:

- **Mansour Alulayet**, research on “Exploring measures to improve the energy efficiency of office building in Saudi Arabia”. Thesis submitted and PhD granted. Role: Primary Supervisor.
- **Ahmed Faheem**, research on “Ventilated Hollow Core Floor Slabs for energy efficient buildings”. Thesis submitted and PhD granted. In collaboration with the School of Civil Engineering of The University of Sydney. Role: co-supervisor
- **Marco Pesenti**, research on “KUMORlgami: a kinetic shading device modelled by daylight”. Thesis submitted and PhD granted with honours. In collaboration with Politecnico di Milano. Role: co-supervisor.
- **Michele Sauchelli**, research on “Smart Facades for zero energy commercial buildings”. Thesis submitted and PhD granted with honours. In collaboration with Politecnico di Milano. Role: co-supervisor.
- **Gabriele Lobaccaro**, research on “Solar Potential and Microscale Climate Interactions in Urban Areas. Design Strategies and Use of Dynamic Simulation Tools for Solar Planning”. Thesis submitted and PhD granted with honours. In collaboration with Politecnico di Milano and with the University of New South Wales. Role: co-supervisor.

## **1.2. CONVENOR AND LECTURER OF COURSES AT UNDERGRADUATE AND POSTGRADUATE LEVEL**

From academic year 2001-2002 to academic year 2010/2011, I have taken part to the teaching activities at Polytechnic University of Bari (Italy) as a teaching assistant for the courses of Building Technology, Building Technology 1 + workshop, Building Technology 2, Architectural Restauration + workshop, Building Technologies and Typologies, Building Components Design, offered at the Bachelor of Civil Engineering, at the Bachelor of Civil Engineering, at the Master of Architectural Engineering, at the Master of Building Engineering, and at the Master of Civil Engineering (design and management of civil engineering works).

From academic year 2007/2008 to academic year 2010/2011 (4 years in total) I have been convenor and lecturer of the course on Building Components Design offered at the Master of Architectural Engineering at the Faculty of Engineering of Polytechnic University of Bari (Italy).

From 2011 to 2016 I was full time tenured academic staff member at the University of Sydney (Sydney, Australia) and, since 2016 at the University of New South Wales (Sydney, Australia). In December 2016, I moved to Polytechnic University of Bari (Italy), where I am tenured Associate Professor. I am convenor and lecturer of courses at the Bachelor and Master in the field of Architectural Engineering, Science and Technology. Details of my teaching experience are the following:

**Overall, since a.y. 2007/2008 (16 years) I have convened courses for a total of 294 credits (18.4 credits/year).** The following is a detail of teaching experience:

At **Polytechnic University of Bari** (Bari, Italy)

- **Integrated Design** (12 credits, SSD ICAR/10, Master of Building Systems Engineering). Core course offered at the first year of the Master of Building Systems Engineering. The course aims at providing students with detailed knowledge of the principles and techniques of integrated design of complex buildings, as synthesis between form, function, and technology. *Role: Course Convenor and Lecturer for academic years 2020/21, 2021/22, 2022/23.*
- **Fundamentals of Integrated Design** (6 credits, SSD ICAR/10, Master of Building Systems Engineering). Core course offered at the first year of the Master of Building Systems Engineering. The course aims at providing students with foundational knowledge of the principles of integrated design of complex buildings, as synthesis between form, function and technology. *Role: Course Convenor and Lecturer for academic years 2017/18, 2018/19, 2019/20.*
- **High-Performance Building Envelopes' design** (6 credits, SSD ICAR/10, Master of Building Systems Engineering). Course offered at the second year of the Master of Building Engineering. The course aims at providing students with advanced knowledge of design principles and technologies for building envelopes to be used in complex buildings. *Role: Course Convenor and Lecturer for academic years 2018/19, 2019/20, 2020/21, 2021/22, 2022/23.*
- **Building Construction Technology** (6 credits, SSD ICAR/10, Bachelor of Civil and Environmental Engineering). The course aims at providing students with basic knowledge of fundamental principles of technological design of buildings, of the interactions between buildings and environment, of the design of interior spaces of simple buildings. *Course Convenor and Lecturer for academic years 2017/18 and 2018/19.*
- **Building Components Design** (9 credits, Master in Architectural Engineering). Elective course for students enrolled in the final year of the Master in Architectural Engineering. The course aims to provide students with advanced knowledge on the design of building components, with particular interest to the

technological and material characteristics of building components. *Role: Course Convenor and Lecturer for academic years 2007/08, 2008/09, 2009/10, and 2010/11.*

At the **University of New South Wales** (Sydney NSW, Australia):

- **ARCH1331 Architectural Fabrication** (6 credits, Bachelor of Architectural Studies). Third and final core course on “Construction and Structures” for the Bachelor of Architectural Studies. The course is a combination of historical and theoretical explorations and workshop-based experimentation with building materials and forms of construction. It introduces students to both material properties and the cultural and symbolic connotations of building materials, including wood, masonry, terra-cotta, iron and steel, glass, cement, concrete, and emerging materials. *Role: Course Convenor and Lecturer (2016).*
- **ARCH7809 Architectural Environment and Building Services** (6 credits, Master of Architecture). Core Course for the first year of the Master of Architecture. The course is concerned primarily with the systems comprising building services: sources and distribution of water and elimination of waste, energy supplies and application of electrical power, hydraulics, vertical transport, fire protection in buildings, security, telecommunications, as well as air conditioning, heating and ventilation of buildings. It focuses on equipment selection and space allocation for those services. This allows students to undertake preliminary selection and sizing of systems, and to translate them into space and planning requirements for complex buildings. *Role: Course Convenor (2016).*
- **ARCH7213 High Performance Building Systems** (6 credits, Master of Architecture). The course is a supporting elective for the stream “High Performance Technologies” of the Master of Architecture. The course is interdisciplinary with a focus on optimal performance of building systems (structural, envelope, building services), using an integrated approach. *Role: Course Convenor and Lecturer (2016).*

At the **University of Sydney** (Sydney NSW, Australia)

- **BDES3023 Architectural Technologies 3** (6 credits, Bachelor of Design in Architecture). Third and last course on building technologies offered at the Bachelor of Design in Architecture. The course develops in students an advanced understanding of moderately complex building systems. The course is offered in a conjunction with a design studio (since 2015 the two courses are integrated into a major design studio of 12 credits with a technology focus). *Role: Course Convenor and Lecturer (2014, 2015).*
- **CIVL4860 Architectural to Structural Design** (6 credits, Bachelor of Civil Engineering & Bachelor of Design in Architecture). Final capstone course for students enrolled in the combined bachelor degree in Civil Engineering and Design in Architecture. The course is oriented towards the development of an integrated structural/architectural/technological project of a medium rise building. *Role: Course Convenor and Lecturer (2013, 2014, 2015).*
- **DAAE2008 Innovative Building Structures** (6 credits, Bachelor of Design in Architecture). Elective course offered to students enrolled at second or third year of the Bachelor of Design in Architecture. The course analyses design techniques of complex structural systems, focusing on modelling techniques, and selection of materials and technologies. *Role: Course Convenor and Lecturer (2012, 2013, 2014, 2015).*
- **MARC5101 Advanced Technologies 2** (6 credits, Master of Architecture). Second core course of building construction offered to students enrolled in the Master of Architecture. The course explores

detailed and advanced design options of the three building sub-systems: structure, envelope, building services, focusing on complex buildings. *Role: Course Convenor and Lecturer (2012, 2013, 2014, 2015).*

- **DESC9169 Daylight in Buildings** (6 credits, Master of Architectural Science). Supporting course for the stream on “Sustainable Design” of the Master in Architectural Science. The course is oriented towards the definition of design techniques for spatial and envelope systems, in order to maximize the use of natural light. *Role: Course Convenor and Lecturer (2013, 2014, 2015).*
- **DESC9015 Building Energy Analysis** (6 credits, Master of Architectural Science). Supporting course for the streams “Sustainable Design” and “High Performance Buildings” of the Master of Architectural Science. The course is oriented towards the development of techniques for the energy modelling of buildings and of the building/services system. *Role: Course Convenor (2014, 2015).*
- **DESC9192 Energy Code Compliance in Buildings** (6 credits, Master of Architectural Science). Elective Course offered for students enrolled in the Master of Architectural Science. The course is oriented towards the detailed understanding of the local energy code and to the development of technical/technological solutions for the energy efficiency optimization of office buildings. *Role: Course Convenor (2012, 2013, 2014).*
- **DESC9200 Introduction to Architectural Science** (6 credits, Master of Architectural Science). Core course for the Master of Architectural Science. The course provides students with an introduction of basic principles of building physics (heat transfer, lighting, and acoustics). *Role: Course Convenor (2013, 2014, 2015).*

### **1.3. SUPERVISOR OF STUDENTS FOR FINAL DISSERTATIONS**

At Polytechnic University of Bari, supervisor or co-supervisor of over 130 final dissertations for bachelor and master courses. In particular:

- Supervisor or co-supervisor of 40 final dissertations for the Master of Architectural Engineering.
- Supervisor or co-supervisor of 64 final dissertations for the Master of Building Systems Engineering and for the Master of Building Engineering.
- Supervisor or co-supervisor of 3 final dissertations for the Master of Civil Engineering.
- Supervisor or co-supervisor of 17 final dissertations for the Bachelor of Civil and Environmental Engineering, or for the Bachelor of Building Engineering.

At the University of Sydney, supervisor of 10 honours research projects at the School of Civil Engineering.

### **1.4. OTHER TEACHING ACTIVITIES**

- 2021: Guest lecture on the topic “Buildings of the future: biomimicry, smart building systems and advanced materials” at the Monash University (Melbourne, Australia).
- 03/2021: Lecture within the learning module “zero or plus energy houses: technologies and design of new buildings” of the “Winter-Spring School 2021: Design of Zero Energy Buildings with Integrated Design Laboratory (BIM)”, organized by the Council of Engineers of the Province of Matera.
- 11-12/2020: Lecture within the learning module “zero or plus energy houses: technologies and design of new buildings” of the “Autumn School: Design of Zero Energy Buildings with Integrated Design Laboratory (BIM)”, organized by the Council of Engineers of the Province of Matera.
- 05/2020: Lecture within the learning module “zero or plus energy houses: technologies and design of new buildings” of the “Spring Summer School: Design of Zero Energy Buildings with Integrated Design Laboratory (BIM)”, organized by the Council of Engineers of the Province of Matera.
- 4<sup>th</sup> December 2018: Lecture on “Relevant aspects on the environmental sustainability assessment. Thermal and acoustics performances of innovative envelopes” within the professional development course: “ITACA Puglia 2017 protocol and the minimum environmental criteria (CAM)”, organized by the Council of Engineers of the Province of Barletta, Andria and Trani.
- 2018-2019: Coordinator and lecturer of the module M1952: Research and Advances in Construction III, with specific contribution on the topic of advances in innovative construction materials and Life Cycle Analysis (LCA) offered at the Master in Construction Research, Technology and Management in Europe at the University of Cantabria (Santander, Spain).
- 2016-2017: Coordinator and lecturer of the module 18 “Monitoring Techniques for Buildings” of the Online Educational Course “Design and Optimization of Zero Energy Consumption Buildings” organized by the Centre of Continuing Education and Lifelong Learning of the National and Kapodistrian University of Athens and the International Union of Architects.
- 22<sup>nd</sup> February 2017: Guest Lecture on “Biomimicry, smart materials, and adaptive building components” at the Royal Danish Academy of fine arts, schools of Architecture, Design and Conservation (KADK).
- 11<sup>th</sup> June 2011: Lecture on “Technical codes for refurbishment interventions on cultural heritage”. Course “Innovative laser technologies for cultural heritage conservation” at Politecnico di Bari (IT).
- 29<sup>th</sup> April e 3<sup>rd</sup> May 2011: Lecture on “Environmental assessment and ecological balance of building materials” and “Indoor air quality” within the course on “ECOFARM: Environmental and Energetic Sustainability” – Locorotondo (IT).
- 22<sup>nd</sup> April 2011: Lecture on “winter and summer energy performances of building envelope” within the national course on bio-architecture. INBAR – Taranto (IT).

- 22<sup>nd</sup> January 2011: Lecture on “Design and building solutions for daylight control in indoor environment” within the “Higher Education Course for Environmental and Energetic Sustainability Certifiers”. ARIAP – Bari (IT).
- 20<sup>th</sup> May 2009: Lecture on “PV building integration”, within the course “The design of photovoltaic and solar thermal systems”. UNIVERSUS-CSEI – Foggia (IT).
- 19<sup>th</sup> December 2008: Lecture on “Building Folder” within the 1st advanced course in “Structural engineering of existing buildings – safety assessment, interventions and monitoring. CISEM – Bari (IT).
- 11<sup>th</sup> December 2004: Lecture on “An example of safety assessment and of structural interventions” within the course “Existing and new buildings in seismic zone”. ARIAP – Bari (IT).
- April – June 2004: Course for high school teachers of “Istituto Euclide” in Bari on the topics of “Ultimate limit design, new structural codes, building folder”.

### **1.5. LECTURER AND TUTOR OF COURSES AT BACHELOR AND MASTER LEVEL.**

At the **University of New South Wales**, since 2016, I have been invited to lecture on topics of building integration of innovative materials and technologies at the courses: **CODE3100 Digital Collaboration Studio**, **ARCH1361 Architectural Science & Building Environment 2**, **SUSD0014 Advanced Topics in Sustainable Development**.

At **The University of Sydney**, from 2012 to 2016, I have been invited to lecture on topics of building integration of innovative materials and technologies, energy and daylighting modelling, and structural design principles at the courses: **BDES1023 Architectural Technologies 1**, **BDES2013 Architectural Technologies 2**, **DESC9146 Climate, Comfort and Sustainable Design**, **DESC9147 Sustainable Building Design Principles**, **MARC4101 Advanced Technologies 1**.

At **Polytechnic University of Bari**, from 2002 to 2011, I have been involved as assistant in the teaching activities of the courses of **Building Technology I + workshop** (Master of Architectural Engineering, from academic year 2003/04 to academic year 2010/11), **Building Technology I + workshop** (Bachelor of Building Engineering, academic year 2001/02 and from academic year 2003/04 to academic year 2010/11) **Architectural Restauration + workshop** (Master of Architectural Engineering, from academic year 2007/08 to academic year 2010/11), **Building Technology** (Bachelor in Civil Engineering, from academic year 2007/08 to academic year 2009/10), **Building Technology II** (Master in Design and Management of Civil Engineering Works, academic years 2007/08 and 2008/09), **Building Typologies and Technologies** (Master of Architectural Engineering, academic years 2005/06 and 2006/07).

---

## 2. RESEARCH

My research activities are primarily oriented towards the theoretical and experimental development of innovative technologies for new and existing buildings. In particular, over the last few years, I have worked on the following research topics:

- **Strategies for mitigation and adaptation of buildings and neighbourhoods to global and local climate change.** Funded research projects: IC1, RP1, RP4, RP6, RP14, RP15, RP16, RP17. Research outputs linked to the topic: B1, C2, C3, C9, C11, C12, C13, C14, C23, C27, C29, D1, D4, D6, F2, F5, I3.
- **Innovative building materials and technologies for the optimization of energy behaviour of opaque envelopes.** Funded research projects: RP5, RP7, RP8, RP12, RP23. Research outputs linked to the topic: A1, A2, B2, C6, C7, C21, C26, C31, D2, D3, D8, D10, D11, D18, D19, D20, D21, E1, E3, E4, E5, E6, F4, H6, H8.
- **Innovative building materials and technologies for adaptive envelopes.** Funded research projects: IC2, RP14, RP15, RP16, RP18, RP20, RP21, RP22. Research outputs linked to the topic: C1, C8, C19, C22, C32, D5, D14, D15, D17, F1, F6, H1, H3, H4, H9. Patent linked to the topic: BR1.
- **Design strategies for daylighting control and innovative glazing technologies.** Funded research projects: IC3, RP12, RP19. Research outputs linked to the topic: A2, C4, C5, C15, C16, C17, C24, C28, C30, C33, C34, D9, D13, D16, E2, H12, H14, H15, I1, I5, I6.
- **Innovative technologies for the building integration of renewable energy systems.** Funded research projects: RP9, RP11. Research outputs linked to this topic: C10, C15, C16, C18, C20, C30, C33, D13, G3, H2, H5, I4. Patents linked to this topic: BR2, BR3.
- **Innovative diagnostic and intervention techniques on existing and heritage-listed buildings.** Funded research projects: RP1, RP2, RP3, RP4, RP10, RP13. Research outputs linked to this topic: C13, C25, D4, G1, H13, I7, I8.

In the last years, I have been granted, managed or participated as Principal Chief Investigator (Principal CI), Chief Investigator (CI) or Partner Investigator (PI) to the following research projects:

### 2.1. PROJECTS OF INTERNATIONAL COOPERATION

#### IC1. **OpenGlassROOM.**

Cooperation partnership in higher education, funded by the European Union, Erasmus+ KA220-HED scheme (2022-25). Role in the project: Chief Investigator (CI) as scientific responsible of the research unit of Polytechnic University of Bari, partner organization of the project.

#### IC2. **Action CA16114 RETHinking Sustainability TOWards a Regenerative Economy (RESTORE).**

International action for scientific cooperation funded by the European Union, COST (European Cooperation in Science and Technology) scheme (2017-2021). Role in the project: Partner Investigator (PI) and Management Committee Member as delegate for Italy.

#### IC3. **Action TU1403 Adaptive Facades Network.**

International action for scientific cooperation funded by the European Union, COST (European Cooperation in Science and Technology) scheme (2014-2018). Role in the project: Partner Investigator (PI) and Management Committee Observer as delegate for Australia.

#### IC4. **Action TU0905 Structural Glass, Novel Design Methods and Next Generation Products.**

International action for scientific cooperation funded by the European Union, COST (European Cooperation in Science and Technology) scheme (2010-2014). Role in the project: Partner Investigator (PI) and Management Committee member as delegate for Italy.

### 2.2. COMPETITIVE RESEARCH PROJECTS.

- RP1 **SCIAME – Smart City Integrated Air Mobility Evolution.**  
Project funded by the Italian Ministry of Enterprises and Made in Italy. Innovation agreements programs. (2023-2026). Role in the Project: Partner Investigator (PI).
- RP2 **BE S<sup>2</sup>ECURE. - Built Environment Safer in Slow and Emergency Conditions through behaviorUral assessed/designed Resilient Solution.**  
Project funded by the Italian Ministry of Education, University and Research, funding programme: PRIN 2017 (2019-2022). Role in the project: Partner Investigator (PI).
- RP3 **V.E.R.BU.M – Virtual Enhanced Reality for Building Modelling.**  
Project funded within POR Puglia FESR-FSE 2014-2020 Action 1.6. "Innonetwork" (2018-2020). Role in the project: Partner Investigator (PI).
- RP4 **ASMARA – Applicazioni pilota post Direttiva 2010/65 in realtà portuali italiane della Suite MIELE a supporto delle Authority per ottimizzazione della interRoperabilità nell'intermodalità dei flussi città-porto.**  
Project funded by the Italian Ministry of Education, University, and Research within the funding programme "Smart Cities and Communities and Social Innovation" avviso n. 391/Ric. del 05/07/2012. (2019-2021). Role in the project: Partner Investigator (PI).
- RP5 **ResCUDE - RESilient Cultural Urban context to Disaster Exposure.**  
Project funded by the Italian Ministry of Education, University and Research within the funding programme PON AIM Mobility and Attraction (2018-22). Role in the project: Chief Investigator (CI) and responsible for action 1 "cultural heritage".
- RP6 **Elastocaloric cooling Systems for buildings and the built environment**  
Project funded by the Australian Research Council, Discovery Projects scheme (2018-2020). Role in the project: Chief Investigator (CI).
- RP7 **SAFERUP.**  
Project funded by Horizon 2020 for 2017-2021. Call: H2020-MSCA-ITN-2017 (Marie Sklodowska-Curie Innovative Training Networks). Topic: MSCA-ITN-2017. Type of Action MSCA-ITN-ETN (European Training Networks). Proposal number 765057. Role in the project: Scientist in Charge for the University of New South Wales, involved in the project as partner organization.
- RP8 **ARC Training Centre for Advanced Manufacturing of Prefabricated Housing.**  
Project funded by the Australian Research Council, Industrial Transformation Training Centre scheme (2015-2019). Role in the project: Chief Investigator (CI).
- RP9 **University-SME collaboration. Partnership with Easy House s.r.l.s.**  
Project funded by Australian Academy of Technology and Engineering, Priming Grant Scheme (2016-2017). Role in the project: Principal CI.
- RP10 **BMG - biomimetic microwind generator, innovative device for wind microgeneration in urban areas.**  
Project funded by Regione Puglia, research scheme "Principi Attivi – Giovani idee per una Puglia migliore" (2011-2012). Role in the project: Principal CI.
- RP11 **Programme INTERREG III-A – ITALY-ALBANIA 2000-2006. Asse IV – Turismo, Beni culturali e cooperazione istituzionale; 4.3 – sviluppo della cooperazione istituzionale e culturale; 2 – rete degli uffici del Genio Civile.**  
Project funded by the European Union, scheme INTERREG (2006-2007). Role in the project: Partner Investigator (PI) for tasks T 2.1, T 3.1 e T 3.4.

### **2.3. RESEARCH FUNDED BY PUBLIC OR PRIVATE INSTITUTIONS.**

- RP12 **Studies on optimal application of photovoltaic systems for commercial buildings in Australia.**  
Project funded by the Cooperative Research Centre for Low Carbon Living (2016-2019). Role in the project: Principal CI.
- RP13 **CRC LCL Node of Excellence in High Performance Architecture.**  
Project funded by the Cooperative Research Centre for Low Carbon Living (2015-2019). Role in the project: CI and member of the Steering Committee.
- RP14 **Sydney Opera House Concrete Conservation Strategy Project.**  
Project funded by Getty Foundation through Sydney Opera House Trust (2014-2016). Role in the project: CI and responsible of project 4: Non-destructive testing techniques for the evaluation of the tile lid conditions.

### **2.4. INTERNAL COMPETITIVE RESEARCH FUNDS.**

- RP15 **Performance assessment of adaptive envelope technologies for the mitigation of Urban Heat Island Effect.**  
Research Assistant contract funded by Polytechnic University of Bari (D.R. 667 of 13/09/2021) (2022-2023). Role in the project: Principal CI.
- RP16 **Performance assessment of adaptive envelope technologies for the mitigation of Urban Heat Island Effect. (3<sup>rd</sup> and 4<sup>th</sup> year)**  
Project funded by the 2021 University Research Fund (FRA) of Polytechnic University of Bari. (2021-2022). Role in the project: Principal CI.
- RP17 **Performance assessment of adaptive envelope technologies for the mitigation of Urban Heat Island Effect. (1<sup>st</sup> and 2<sup>nd</sup> year)**  
Project funded by the 2019 University Research Fund (FRA) of Polytechnic University of Bari. (2019-2020). Role in the project: Principal CI.
- RP18 **The built environment energy bus - development of a cutting edge mobile experimental lab for the built environment.**  
Project funded by the University of New South Wales, Research Infrastructure Scheme (2017). Role in the project: CI.
- RP19 **Design, Fabrication and Testing of an Adaptive Envelope Component.**  
Project funded by the Faculty of Built Environment of the University of New South Wales, ResearchStart Program (2016). Role in the project: Principal CI.
- RP20 **Smart PhoVoltaChromic windows: thermal and structural analyses on a full-scale window.**  
Project funded by The University of Sydney, Faculty of Architecture, Design and Planning Research Support Fund (2014-2015). Role in the project: Principal CI.
- RP21 **Prototyping a self-adaptive shading device activated by smart materials actuators.**  
Project funded by The University of Sydney Commercial Development & Industry Partnership (CDIP) fund (2014-2015). Role in the project: PI.
- RP22 **International Network for High Performance Smart Kinetic Facades.**  
Project funded by The University of Sydney, International Program Development Fund (IPDF) (2014-2015). Role in the project: Principal CI.
- RP23 **Smart materials for dynamically activated building components: an integrated structural and**

**indoor comfort based approach.**

Project funded by The University of Sydney, Civil Engineering Development Scheme (2013-2015). Role in the project: PI.

**RP24 EstoReN – Energy Storage Research Network.**

Project funded by The University of Sydney, Sydney Research Networks Scheme (SyReNS) (2012-2014). Role in the project: PI and representative of the Faculty of Architecture, Design and Planning.

**2.5. SCIENTIFIC CONSULTANCIES.**

- C1 Technical and Scientific Consultancy between COSERPLAST and the University of Basilicata and Polytechnic University of Bari aimed at the design of a new mechanical ventilation system integrated in windows' frames.** 2022-23. Role in the Project: CI as scientific responsible for Polytechnic University of Bari.
- C2 Scientific Consultancy for inspection and control activities,** commissioned by ASSET (Regional Strategic Agency for Ecosustainable Development) of Apulia Regional Government. 2021-23.

## 2.6. RESEARCH OUTPUTS

Overall, I have published over 100 research outputs (books, book chapters, journal article, and conference papers). I constantly publish in the best journals in my field of research, such as *Energy and Buildings*, *Building and Environment*, *Solar Energy*, *Renewable and Sustainable Energy Reviews*, *Applied Energy*, *Energy & Environmental Science*. My works have attracted 1717/2389 citations (Scopus/Google Scholar) and my h-index is 23/27 (Scopus/Google Scholar).

Moreover, I have been recently included in the list of top 2% world best researchers for years 2020 and 2021, according to the database developed by Ioannidis of Stanford University ([https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/3?fbclid=IwAR2L74AK6ocXp\\_YUWIGf5dFcYv4wSceq4kb1VNUWPNQBEcztLy8ZrbNgYC4](https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/3?fbclid=IwAR2L74AK6ocXp_YUWIGf5dFcYv4wSceq4kb1VNUWPNQBEcztLy8ZrbNgYC4)).

The following is a full list of publications in chronological order, categorized by typology

**Non-bibliometric indexes (updated on 15/03/2023). In parenthesis the threshold for being qualified as member of the panel for national qualification for professors for the scientific field:**

- **Nr. of articles published in A-tier journals in the last 15 years: 42 (3)**
- **Nr. of papers published in the last 10 years: 80 (37)**
- **Nr. of monographs published in the last 15 years: 2 (2)**

### A. MONOGRAPHS

- A1 V. Sangiorgio, L. Vargas, F. Fatiguso, F. Fiorito (2022). **New Approaches for Multi-Criteria Analysis in Building Constructions**. Springer International Publishing. ISBN 978-3-030-83875-1.
- A2 F. Fiorito (2009). **Involucro Edilizio e risparmio energetico. Soluzioni progettuali e tecnologie**, Dario Flaccovio Editore, Palermo. ISBN 978-88-7758-863-0.

### B. EDITORSHIP OF BOOKS

- B1 A. Khan, H. Akbari, F. Fiorito, S. Mithun, D. Niyogi (2022). **Global Urban Heat Island Mitigation**. Elsevier. ISBN 9780323855396.
- B2 A. Cannavale, F. Martellotta, F. Fiorito (2021). **Novel technologies to enhance energy performance and indoor environmental quality of buildings**. MDPI. ISBN 978-3-0365-2339-2.

### C. PAPERS IN “A”-TIER JOURNALS FOR THE SCIENTIFIC FIELD 08/C1

- C1 S. Volpe, V. Sangiorgio, F. Fiorito, H. Varum (2022). **Overview of 3D construction printing and future perspectives: a review of technology, companies and research progression**. Architectural Science Review. DOI: 10.1080/00038628.2022.2154740.
- C2 V. Sangiorgio, S. Bruno, F. Fiorito (2022). **Comparative Analysis and Mitigation Strategy for the Urban Heat Island Intensity in Bari (Italy) and in Other Six European Cities**. Climate 10: 177. DOI: 10.3390/cli10110177.
- C3 F. Carlucci, R.C.G.M. Loonen, F. Fiorito, J.L.M. Hensen (2022). **A novel approach to account for shape-morphing and kinetic shading systems in building energy performance simulations**. Journal of Building Performance Simulation, DOI: 10.1080/19401493.2022.2142294.
- C4 F. Fiorito, G. Vurro, F. Carlucci, L.M. Campagna, M. De Fino, S. Carlucci, F. Fatiguso (2022). **Adaptation of Users to Future Climate Conditions in Naturally Ventilated Historic Buildings: Effects on Indoor Comfort**. Energies 15:4984, ISSN: 1996-1073. DOI: 10.3390/en15144984.

- C5 F. Carlucci, F. Fiorito (2022). **Methodological approach and comparative analyses for smart envelopes assessment in three different temperate climates**. TEMA (Technology, Engineering, Materials, Architecture) 8(1): 102-115, ISSN: 2421-4574. DOI: 10.30682/tema080m.
- C6 A. Cannavale, M. Pugliese, R. Giannuzzi, R. Scarfiello, C.T. Prontera, V. Primiceri, M. Mazzeo, F. Martellotta, U. Ayr, F. Fiorito, F. Mariano, A. Maggiore, V. Maiorano, G. Gigli (2022). **Towards the scale-up of solid-state, low-emissive electrochromic films, fabricated on a single substrate with novel electrolyte formulations**. Solar Energy Materials and Solar Cells 241: 111760. DOI: 10.1016/j.solmat.2022.111760.
- C7 G. Vurro, V. Santamaria, C. Chiarantoni, F. Fiorito (2022). **Climate change impact on energy poverty and energy efficiency in the public housing building stock of Bari, Italy**. Climate, MDPI, ISSN: 2225-1154.
- C8 L.M. Campagna, F. Fiorito (2022). **On the impact of climate change on building energy consumptions: a meta-analysis**. Energies 15(1): 354, MDPI, ISSN 1996-1073. DOI: 10.3390/en15010354.
- C9 A. Cannavale, G. Zampini, F. Carlucci, M. Pugliese, F. Martellotta, U. Ayr, V. Maiorano, F. Ortica, F. Fiorito, L. Latterini (2021). **Energy and daylighting performance of building integrated spirooxazine photochromic films**. Solar Energy, Elsevier, ISSN 0038-092X.
- C10C. Basurto Davila, F. Fiorito (2021). **On the combined use of laser-cut panel light redirecting systems and horizontal blinds for daylighting and solar heat control, a focus on visual comfort objectives**. Solar Energy 230:186-194, Elsevier, ISSN 0038-092X. DOI: 10.1016/j.solener.2021.09.071.
- C11S. Volpe, V. Sangiorgio, A. Petrella, A. Coppola, M. Notarnicola, F. Fiorito (2021). **Building Envelope Prefabricated with 3D Printing Technology**. Sustainability 13:8923, MDPI, ISSN 2071-1050. DOI: 10.3390/su13168923.
- C12R. Romano, T. Konstantinou, F. Fiorito (2021). **Beyond sustainability. Regenerative technologies for a restorative indoor environment**. Techne 21:315-326, FU Press, ISSN 2239-0243. DOI: 10.36253/techne-9883.
- C13A. Kuru, P. Oldfield, S. Bonser, F. Fiorito (2021). **Performance prediction of biomimetic adaptive building skins: Integrating multifunctionality through a novel simulation framework**. Solar Energy 224: 253-270, Elsevier, ISSN 0038-092X. DOI: 10.1016/j.solener.2021.06.012.
- C14M. Santamouris, F. Fiorito (2021). **On the impact of modified urban albedo on ambient temperature and heat related mortality**. Solar Energy 206:493-507, Elsevier, ISSN 0038-092X. DOI: 10.1016/j.solener.2021.01.031.
- C15S. Yang, F. Fiorito, D. Prasad, A. Sproul, A. Cannavale (2021). **A sensitivity analysis of design parameters of BIPV/T-DSF in relation to building energy and thermal comfort performances**. Journal of Building Engineering, Elsevier, ISSN 2352-7102, DOI: 10.1016/j.jobee.2021.102426.
- C16A. Martinelli, D. Kolokotsa, F. Fiorito (2020). **Urban Heat Island in Mediterranean Coastal Cities: the case of Bari**. Climate 8(6): 79, MDPI, ISSN 2225-1154. DOI: 10.3390/cli8060079.
- C17V. Sangiorgio, F. Fiorito, M. Santamouris (2020). **Development of a holistic urban heat island evaluation methodology**. Scientific Reports 10:17913, Nature Research, ISSN 2045-2322, DOI: 10.1038/s41598-020-75018-4.
- C18E. Cantatore, F. Fiorito, F. Fatiguso (2020). **Learning from the past toward energy resilient strategies in historic districts. A case study in Apulia region (Italy)**. The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, XLIV-M-1-2020, ISSN 2194-9034, DOI: 10.5194/isprs-archives-XLIV-M-1-2020-833-2020.

- C19E. Naboni, A. Milella, R. Vadalà, F. Fiorito (2020). **On the localised climate change mitigation potential of building facades.** *Energy and Buildings* 224:110284, Elsevier, ISSN 0378-7788, DOI: 10.1016/j.enbuild.2020.110284.
- C20F. Fiorito, A. Cannavale, M. Santamouris (2020). **Development, testing and evaluation of energy savings potentials of photovoltachromic windows in office buildings. A perspective study for Australian climates.** *Solar Energy* 205:358-371, Elsevier, ISSN 0038-092X. DOI: 10.1016/j.solener.2020.05.080.
- C21A. Cannavale, F. Martellotta, F. Fiorito, U. Ayr (2020). **The challenge for building integration of highly transparent photovoltaics and photo-electrochromic devices.** *Energies* 13, 1929, MDPI. DOI:10.3390/en13081929.
- C22A. Cannavale, U. Ayr, F. Fiorito, F. Martellotta (2020). **Smart electrochromic windows to enhance building energy efficiency and visual comfort.** *Energies* 13, 1449, MDPI. DOI:10.3390/en13061449.
- C23S. Yang, A. Cannavale, A. Di Carlo, D. Prasad, A. Sproul, F. Fiorito (2020). **Performance assessment of BIPV/T double-skin façade for various climate zones in Australia: effects on energy consumption.** *Solar Energy* 199:377-399, Elsevier, ISSN 0038-092X. DOI: 10.1016/j.solener.2020.02.044.
- C24A. Kuru, P. Oldfield, S. Bonser, F. Fiorito (2019). **Biomimetic adaptive building skins: Energy and environmental regulation in buildings.** *Energy and Buildings* 205:109544, Elsevier, ISSN 0378-7788. DOI: 10.1016/j.enbuild.2019.109544.
- C25S. Yang, A. Cannavale, D. Prasad, A. Sproul, F. Fiorito (2019). **Numerical simulation study of BIPV/T double-skin façade for various climate zones in Australia: effects on indoor thermal comfort.** *Building Simulation* 12:51-67, ISSN 1996-8744, DOI: 10.1007/s12273-018-0489-x.
- C26V. De Matteis, A. Cannavale, F. Martellotta, R. Rinaldi, P. Calcagnile, F. Ferrari, U. Ayr, F. Fiorito (2019). **Nano-encapsulation of phase change materials: from design to thermal performance, simulations and toxicological assessment.** *Energy and Buildings* 188-189: 1-11, Elsevier, ISSN 0378-7788. DOI: 10.1016/j.enbuild.2019.02.004.
- C27M. Pesenti, G. Masera, F. Fiorito (2018). **Exploration of adaptive Origami shading concepts through integrated dynamic simulations.** *Journal of Architectural Engineering* 24(4): 04018022, ASCE, ISSN 1076-0431. DOI: 10.1061/(ASCE)AE.1943-5568.0000323.
- C28M. Santamouris, S. Haddad, M. Saliari, K. Vasilakopoulou, A. Synnefa, R. Paolini, G. Ulpiani, S. Garshashi, F. Fiorito (2018). **On the energy impact of urban heat island in Sydney. Climate and energy potential of mitigation technologies.** *Energy and Buildings* 166:154-164, Elsevier, ISSN 0378-7788. DOI: 10.1016/j.enbuild.2018.02.007.
- C29A. Pierucci, A. Cannavale, F. Martellotta, F. Fiorito (2018). **Smart windows for carbon neutral buildings: A life cycle approach.** *Energy and Buildings* 165: 160-171, Elsevier, ISSN 0378-7788. DOI: 10.1016/j.enbuild.2018.01.021.
- C30I. Rajapaksha, F. Fiorito, E. Lazer, F. Sartogo (2018). **Exploring thermal comfort in the context of historical conservation. A study of the vernacular architecture of Pompeii.** *Architectural Science Review* 61(1-2):4-14, Taylor & Francis, ISSN 1758-9622. DOI: 10.1080/00038628.2017.1405790.
- C31F. Fiorito, M. Santamouris (2017). **High Performance Technologies and the future of architectural design.** *TECHNE. Journal of Technology for Architecture and Environment* 13: 72-76, Firenze University Press, ISSN 2239-0243. DOI: 10.13128/Techne-21136.

- C32M. Santamouris, S. Haddad, F. Fiorito, L. Ding, D. Prasad, W. Ruzhu, P. Osmond, X. Zhai (2017). **Urban Heat Island and Overheating Characteristics in Sydney, Australia. An Analysis of Multiyear Measurements.** Sustainability 9, 712, MDPI, ISSN 2071-1050. DOI: 10.3390/su9050712.
- C33A. Cannavale, M. Horantner, G.E. Eperon, H. Snaith, F. Fiorito, U. Ayr, F. Martellotta (2017). **Building integration of semitransparent perovskite-based solar cells: Energy performance and visual comfort assessment.** Applied Energy 194: 94-107, Elsevier, ISSN 0306-2619. DOI: 10.1016/j.apenergy.2017.03.011.
- C34M. Santamouris, L. Ding, F. Fiorito, P. Oldfield, P. Osmond, R. Paolini, D. Prasad, A. Synnefa (2017). **Passive and active cooling for the outdoor built environment – Analysis and assessment of the cooling potential of mitigation technologies using performance data from 220 large scale projects.** Solar Energy 154:14-33, Elsevier, ISSN 0038-092X. DOI: 10.1016/j.solener.2016.12.006.
- C35F. Favoino, F. Fiorito, A. Cannavale, G. Ranzi, M. Overend (2016). **Optimal control and performance of photovoltachromic switchable glazing for building integration in temperate climates.** Applied Energy 178:943-961, Elsevier, ISSN 0306-2619. DOI: 10.1016/j.apenergy.2016.06.107.
- C36A. Faheem, G. Ranzi, F. Fiorito, C. Lei (2016). **A numerical study on the thermal performance of night ventilated hollow core slabs cast with micro-encapsulated PCM concrete.** Energy and Buildings 127: 892-906, Elsevier, ISSN 0378-7788. DOI: 10.1016/j.enbuild.2016.06.014.
- C37F. Fiorito, M. Sauchelli, D. Arroyo, M. Pesenti, M. Imperadori, G. Masera, G. Ranzi (2016). **Shape Morphing Solar Shadings: a review.** Renewable and Sustainable Energy Reviews 55: 863-884, Elsevier, ISSN 1364-0321. DOI: 10.1016/j.rser.2015.10.086.
- C38A. Cannavale, F. Fiorito, D. Resta, G. Gigli (2013). **Visual comfort assessment of smart photovoltachromic windows.** Energy and Buildings 65: 137-145, Elsevier, ISSN 0378-7788, DOI: 10.1016/j.enbuild.2013.06.019.
- C39A. Cannavale, F. Fiorito, M. Manca, G. Tortorici, R. Cingolani, G. Gigli (2010). **Multifunctional bioinspired sol-gel coatings for architectural glasses,** Building and Environment 45: 1233-1243, Elsevier, ISSN 0360-1323, DOI: 10.1016/j.buildenv.2009.11.010.

#### D. PAPERS IN SCIENTIFIC JOURNALS FOR THE FIELD 08/C1

- D1 V. Sangiorgio, A. Capolupo, E. Tarantino, F. Fiorito, M. Santamouris (2022). **Evaluation of absolute maximum urban heat island intensity based on a simplified remote sensing approach.** Environmental Engineering Science 39(3): 296-307. DOI: 10.1089/ees.2021.0160.
- D2 A. Cannavale, F. Martellotta, F. Fiorito (2021). **Novel Technologies to Enhance Energy Performance and Indoor Environmental Quality of Buildings.** Buildings, 11 (303), MDPI, ISSN 2075-5309, DOI: 10.3390/buildings11070303.
- D3 F. Carlucci, A. Cannavale, A.A. Triggiano, A. Squicciarini, F. Fiorito (2021). **Phase Change Material Integration in Building Envelopes in Different Building Types and Climates: Modelling the Benefits of Active and Passive Strategies.** Applied Sciences 11(10), 4680, MDPI, ISSN 2076-3417. DOI: 10.3390/app11104680.
- D4 A. Sonnessa, E. Cantatore, D. Esposito, F. Fiorito (2020). **A Multidisciplinary Approach for Multi-risk Analysis and Monitoring of Influence of SODs and RODs on Historic Centres: The ResCUDE Project.** In: Gervasi O. et al. (eds) Computational Science and Its Applications – ICCSA 2020. ICCSA 2020. Lecture Notes in Computer Science, vol 12252. Springer Cham, ISBN: 978-3-030-58811-3. DOI:10.1007/978-3-030-58811-3\_54.

- D5 A. Kuru, P. Oldfield, S. Bonser, F. Fiorito (2020). **A Framework to Achieve Multifunctionality in Biomimetic Adaptive Building Skins**. Buildings 10:114, MDPI, ISSN 2075-5309, DOI: 10.3390/buildings10070114.
- D6 I. Livada, A. Synnefa, S. Haddad, R. Paolini, S. Garshasbi, G. Ulpiani, F. Fiorito, K. Vassilakopoulou, P. Osmond, M. Santamouris (2019). **Time series analysis of ambient air-temperature during the period 1970–2016 over Sydney, Australia**. Science of the Total Environment 648: 1627-1638, Elsevier, ISSN: 0048-9697. DOI: 10.1016/j.scitotenv.2018.08.144.
- D7 L. Ding, F. Fiorito, P. Osmond (2017). **Editorial**. Procedia Engineering 180: 1-6, Elsevier, ISSN 1877-7058. DOI: 10.1016/j.proeng.2017.04.159.
- D8 M.J. Moreno, F. Fiorito (2017). **Performance assessment of earth constructions under the Chilean energy rating system software**. Procedia Engineering 180: 502-509, Elsevier, ISSN 1877-7058. DOI: 10.1016/j.proeng.2017.04.209.
- D9 C. Lavin, F. Fiorito (2017). **Optimization of an external perforated screen for improved daylighting and thermal performance of an office space**. Procedia Engineering 180: 571-581, Elsevier, ISSN 1877-7058. DOI: 10.1016/j.proeng.2017.04.216.
- D10 S. Marzban, L. Ding, F. Fiorito (2017). **An Evolutionary Approach to Single-Sided Ventilated Façade Design**. Procedia Engineering 180: 582-590, Elsevier, ISSN 1877-7058. DOI: 10.1016/j.proeng.2017.04.217.
- D11 V. De Matteis, A. Cannavale, A. Coppola, F. Fiorito (2017). **Nanomaterials and smart nanodevices for modular dry constructions: the project “Easy House”**. Procedia Engineering 180: 704-714, Elsevier, ISSN 1877-7058. DOI: 10.1016/j.proeng.2017.04.230.
- D12 G. Tortorici, F. Fiorito (2017). **Building in post-war environments**. Procedia Engineering 180: 1093-1102, Elsevier, ISSN 1877-7058. DOI: 10.1016/j.proeng.2017.04.269.
- D13 A. Cannavale, P. Cossari, G.E. Eperon, S. Colella, F. Fiorito, G. Gigli, H. Snaith, A. Listorti (2016). **Forthcoming Perspectives of Photoelectrochromic Devices: A critical review**. Energy & Environmental Science 9:2682-2719, Royal Society of Chemistry, ISSN 1754-5692. DOI: 10.1039/C6EE01514J.
- D14 M. Pesenti, G. Masera, F. Fiorito (2015). **Shaping an Origami shading device through visual and thermal simulation**. Energy Procedia 78: 346-351, Elsevier, ISSN 1876-6102. DOI:10.1016/j.egypro.2015.11.663.
- D15 M. Pesenti, G. Masera, F. Fiorito, M. Sauchelli (2015). **Kinetic solar skin: a responsive folding technique**. Energy Procedia 70: 661-672, Elsevier, ISSN 1876-6102. DOI: 10.1016/j.egypro.2015.02.174.
- D16 J. González, F. Fiorito (2015) **Daylight Design of Office Buildings: Optimisation of External Solar Shadings by Using Combined Simulation Methods**. Buildings 5(2):560-580, MDPI, ISSN 2075-5309, DOI:10.3390/buildings5020560.
- D17 F. Fiorito (2015). **Adaptive Envelopes: new opportunities for buildings (Involucri adattivi: nuove opportunità per edifici)**. Arketipo 91: 112-115, Tecniche Nuove, ISSN 1828-4450 (bilingual English and Italian).
- D18 F. Fiorito (2014). **Phase-change materials for indoor comfort improvement in lightweight buildings. A parametric analysis for Australian Climates**. Energy Procedia 57: 2014-2022, Elsevier, ISSN 1876-6102, DOI:10.1016/j.egypro.2014.10.066.

- D19G. Lobaccaro, F. Fiorito, G. Maserà, T. Poli (2012). **District geometry simulation: a study for the optimization of solar facades in urban canopy layers**. Energy Procedia 30:1163-1172, Elsevier, ISSN 1876-6102, DOI: 10.1016/j.egypro.2012.11.129.
- D20F. Fiorito (2012). **Trombe Walls for lightweight buildings in temperate and hot climates. Exploring the use of phase-change materials for performances improvement**. Energy Procedia 30:1110-1119, Elsevier, ISSN 1876-6102, DOI: 10.1016/j.egypro.2012.11.124.
- D21A. Cannavale, F. Fiorito, G. Gigli (2011). **Nanotecnologie e nanodispositivi. Opportunità per involucri edilizi intelligenti ed efficienza energetica in edilizia**. L'ingegnere: edilizia, ambiente, territorio. 39-40/2011 pages: 52-54. Mancosu Editore (Roma). ISSN 1826-0535.

## E. PAPERS ON OTHER INTERNATIONAL JOURNALS

- E1 L.M. Campagna, F. Carlucci, P. Russo, F. Fiorito (2021). **Energy performance assessment of passive buildings in future climatic scenarios: the case of study of the childcare centre in Putignano (Bari, Italy)**. Journal of Physics. Conference Series 2069:012146. ISSN 1742-6588. DOI: 10.1088/1742-6596/2069/1/012146.
- E2 F. Carlucci, A. Cannavale, F. Fiorito (2021). **Electrochromic window integration in adaptive building envelopes in different climates: a genetic optimization of switchable glazing parameters to reduce energy consumptions in office buildings**. Journal of Physics. Conference Series 2069:012131. ISSN 1742-6588. DOI: 10.1088/1742-6596/2069/1/012131.
- E3 S. Volpe, A. Petrella, V. Sangiorgio, M. Notarnicola, F. Fiorito (2021). **Preparation and characterization of novel environmentally sustainable mortars based on magnesium potassium phosphate cement for additive manufacturing**. AIMS Materials Science, 8(4): 640-658. DOI: 10.3934/matricsci.2021039.
- E4 G. Ulpiani, G. Ranzi, F. Bruederlin, R. Paolini, F. Fiorito, S. Haddad, M. Kohl, M. Santamouris (2019). **Elastocaloric cooling: roadmap towards successful implementation in the built environment**. AIMS Materials Science, 2019, 6(6): 1135-1152. doi: 10.3934/matricsci.2019.6.1135.
- E5 A. Faheem, G. Ranzi, F. Fiorito, C. Lei (2016). **A numerical procedure for modelling the thermal performance of ventilated hollow core slabs**. Applied Mechanics and Materials 846:12-17, Trans Tech Publications, ISSN 1660-9336. DOI: 10.4028/www.scientific.net/AMM.846.12.
- E6 A. Faheem, G. Ranzi, F. Fiorito, C. Lei (2016). **A numerical study of turbulent mixed convection in a smooth horizontal pipe**. Journal of Heat Transfer 138(1): 012501 1-11, ASME, ISSN 0022-1481. DOI: 10.1115/1.4031112.

## F. CHAPTER OF INTERNATIONAL BOOKS

- F1 A. Kuru, P. Oldfield, S. Bonser, F. Fiorito (2021). **Biomimetic adaptive building skins: design and performance**. In Rethinking Building Skins. Transformative technologies and research trajectories. Woodhead Publishing. ISBN 978-0-12-822477-9.
- F2 M. Manni, I. Kousis, G. Lobaccaro, F. Fiorito, A. Cannavale, M. Santamouris (2021). **Urban overheating mitigation through facades: the role of new and innovative cool coatings**. In Rethinking Building Skins. Transformative technologies and research trajectories. Woodhead Publishing. ISBN 978-0-12-822477-9.
- F3 S. Yang, F. Fiorito, D. Prasad, A. Sproul (2021). **Numerical Simulation Modelling of Building-Integrated Photovoltaic Double-Skin Facades**. In F. Bulnes, J.P. Hessling (eds) Recent Advances in Numerical Simulations. IntechOpen. ISBN 978-1-83968-169-1. DOI: 10.5772/intechopen.97171.

- F4 T. Konstantinou, R. Romano, F. Fiorito (2020). **Solution-sets for a regenerative environment**. In R. Lollini, W. Pasut (eds) Regenerative technologies for the indoor environment. Inspirational guidelines for practitioners. Eurac Research. ISBN: 978-3-9504607-6-6.
- F5 E. Naboni, F. Fiorito (2019). **Architecture as an outdoor and indoor climate giver**. In: E. Naboni, L. Havinga, Regenerative design in digital practice. A handbook for the Built Environment. Eurac Research, Bolzano. ISBN: 978-3-9504607-2-8.
- F6 F. Fiorito (2019). **Chapter 7: Smart Envelope Components to Decrease the Cooling Needs of Buildings**. In M. Santamouris, Cooling Energy Solutions for Buildings and Cities, World Scientific Publishing, Singapore, ISBN: 978-981-3236-96-7. DOI: 10.1142/9789813236974\_0007.

## G. CHAPTERS OF ITALIAN BOOKS

- G1 F. Iannone, F. Fiorito (2006). **Il vano scala nei sistemi di ventilazione naturale degli edifici. Un approccio progettuale prestazionale mediante metodi numerici**, in “Intervenire sul patrimonio edilizio: cultura e tecnica” a cura di F. Astrua, C. Caldera, F. Polverino, Celid, Torino. ISBN 88-7661-718-3.
- G2 P. Pastore, F. Fiorito (2005). **Valutazione prestazionale delle facciate a doppia pelle in clima mediterraneo**, in “La ricerca universitaria sul costruire sostenibile. Studi recenti nell’Università italiana” a cura di I. Garofolo, EdicomEdizioni, Monfalcone (Gorizia). ISBN 88-86729-55-3.
- G3 G. Fuzio, F. Fiorito (2003). **La parete tra tecnologia ed energia: facciate fotovoltaiche per il Politecnico di Bari**. in “Sostenibilità nelle costruzioni – Lo stato della ricerca nell’università italiana” a cura di I. Garofolo, EdicomEdizioni, Monfalcone (Gorizia). ISBN 88-86729-37-5.

## H. PAPERS PUBLISHED IN THE PROCEEDINGS OF INTERNATIONAL CONFERENCES

- H1 S. Volpe, V. Sangiorgio, A. Petrella, M. Notarnicola, H. Varum, F. Fiorito (2022). **Material re-use in 3D printed building components**. Proceedings of the Xth Re-USO conference: Documentation, Restoration and Reuse of Heritage. Porto (Portugal), 2-4 November 2022. ISBN 978-972-752-296-5.
- H2 G. Ranzi, F. Fiorito, O. Vallati (2018). **Development of an adaptive shading device based on flexible structural elements and SMA springs**. Proceedings of the COST Action TU1403 Adaptive Facades Network Final Conference “Façade 2018 – Adaptive!”. Lucerne (Switzerland) 26-27 November 2018. ISBN 978-94-6366-102-7.
- H3 S. Yang, F. Fiorito, A. Sproul, D. Prasad (2018). **Study of Building Integrated Photovoltaic/Thermal Double-Skin Façade for Commercial Buildings in Sydney, Australia**. Proceedings of the COST Action TU1403 Adaptive Facades Network Final Conference “Façade 2018 – Adaptive!”. Lucerne (Switzerland) 26-27 November 2018. ISBN 978-94-6366-102-7.
- H4 A. Kuru, F. Fiorito, P. Oldfield, S. Bonser (2018). **Multi-functional biomimetic adaptive facades: Developing a framework**. Proceedings of the COST Action TU1403 Adaptive Facades Network Final Conference “Façade 2018 – Adaptive!”. Lucerne (Switzerland) 26-27 November 2018. ISBN 978-94-6366-102-7.
- H5 A. Kuru, F. Fiorito, P. Oldfield, S. Bonser (2018). **Multi-functional biomimetic adaptive facades: A case study**. Proceedings of the COST Action TU1403 Adaptive Facades Network Final Conference “Façade 2018 – Adaptive!”. Lucerne (Switzerland) 26-27 November 2018. ISBN 978-94-6366-102-7.
- H6 S. Yang, F. Fiorito, A. Sproul, D. Prasad (2018). **Studies on Optimal Application of Building-Integrated Photovoltaic/Thermal Façade for Commercial Buildings in Australia**. Proceedings of the ISES Solar World Conference 2017 and the IEA SHC Solar Heating and Cooling Conference for

- Buildings and Industry 2017, Abu Dhabi 27/10-2/11/2017. ISBN: 9783981465976. DOI: 10.18086/swc.2017.12.13.
- H7 T. Bashirzadeh Tabrizi, F. Fiorito (2016). **Optimization of windows's design in residential buildings. Use of the overall Life Cycle Energy (LCE) indicator.** 4th Annual International Conference on Architecture and Civil Engineering (ACE 2016). 24-25 April 2016, Singapore. DOI: 10.5176/2301-394X\_ACE16.17.
- H8 Z. Zhao, G. Verbic, F. Fiorito (2015). **Model Analysis of a Residential Building for Demand Response.** Proceedings of the International Conference "PowerTech 2015". June 29 – July 2, 2015, Eindhoven (NL). DOI: 10.1109/PTC.2015.7232534.
- H9 Z. Zhao, G. Verbic, F. Fiorito (2014). **Investigating Thermal Inertia in Lightweight Buildings for Demand Response.** The Australasian University Power Engineering Conference (AUPEC). September 28 – October 1, 2014, Curtin University, Perth (Australia). DOI: 10.1109/AUPEC.2014.6966612.
- H10 M. Sauchelli, G. Lobaccaro, G. Masera, F. Fiorito (2013). **Smart Solutions for Solar Adaptive Facades. Preliminary studies for an innovative shading device.** IAHS XXXIX World Congress on Housing. September 17-20, 2013, Milan (Italy).
- H11 M. Alulayet, K. Panuwatwanich, R. Hyde, F. Fiorito (2012). **The evolution of a framework for Building Environmental Assessment (BEA) for green buildings in Saudi Arabia.** Proceedings of the 46th Annual Conference of the Architectural Science Association - Building on Knowledge: Theory and Practice. 14th - 16th November 2012, Griffith University, Gold Coast Campus (QLD – Australia). ISBN: 9780646591698.
- H12 G. Lobaccaro, F. Fiorito, G. Masera, D. Prasad (2012). **Urban solar district: a case study of geometric optimization of solar facades for a residential building in Milan.** Proceedings of International Conference "Solar 2012" held by Australian Solar Energy Society in Melbourne on December 6th and 7th 2012. ISBN: 978-0-646-90071-1.
- H13 F. Fiorito (2006). **Innovative technologies for the control of solar radiation in Mediterranean Areas: analysis of solutions for transparent envelopes,** atti del convegno internazionale "Eurosun 2006", 27-30 giugno 2006, Glasgow (Regno Unito). ISBN 0-904963-73-1.
- H14 F. Iannone, F. Fiorito (2005). **Use of the stairwell as a component of natural ventilation systems in residential buildings. Comparison of technologies for the external envelope,** Atti della "26th AIVC Conference – Ventilation in relation to the Energy Performance of Buildings", Bruxelles (Belgio). ISBN 2-9600355-8-5.
- H15 F. Fiorito, P. Pastore (2005). **Performances of double-skin envelopes in Mediterranean Areas.** Proceedings of the "Third International Conference on Construction in XXI century - Advancing Engineering, Management and Technology", 15-17 September 2005, Athens (Greece). ISBN 960-254-655-7.
- H16 F. Fiorito, G. Fuzio (2004). **Smart materials for the control of natural light.** Proceedings of the XXXII IAHS world congress: "Sustainability of the housing projects", 21-25 settembre 2004, Trento. ISBN 88-8443-070-4 (abstract) – 88-8443-071-2 (proceedings)

#### I. PAPERS PUBLISHED IN THE PROCEEDINGS OF ITALIAN CONFERENCES.

- I1 V. Sangiorgio, S. Bruno, F. Fiorito (2022). **Comparative assessment of urban heat island intensity in Bari (Italy) and in 5 major European cities.** Proceedings of the Conference "Colloqui.AT.e.2022 Memoria e Innovazione". EdicomEdizioni. ISBN: 978-88-945937-4-7.

- 12 L.M. Campagna, F. Fiorito (2022). **On the clustering of large educational building stock in the Apulia Region**. Proceedings of the Conference “Colloqui.AT.e.2022 Memoria e Innovazione”. EdicomEdizioni. ISBN: 978-88-945937-4-7.
- 13 F. Carlucci, L.M. Campagna, F. Fiorito (2022). **Technological and energy assessment of an origami-based kinetic shading system in typical and future climate scenarios**. Proceedings of the Conference “Colloqui.AT.e.2022 Memoria e Innovazione”. EdicomEdizioni. ISBN: 978-88-945937-4-7.
- 14 A. Martinelli, F. Fatiguso, F. Fiorito (2022). **European building stock assessment and the challenge of renovation**. Proceedings of the Conference “Colloqui.AT.e.2022 Memoria e Innovazione”. EdicomEdizioni. ISBN: 978-88-945937-4-7.
- 15 S. Volpe, V. Sangiorgio, F. Fiorito (2022). **Design of an efficient 3d printed envelope supported by parametric modelling**. Proceedings of the Conference “Colloqui.AT.e.2022 Memoria e Innovazione”. EdicomEdizioni. ISBN: 978-88-945937-4-7.
- 16 A. Cannavale, F. Carlucci, F. Fiorito, F. Martellotta, U. Ayr, U. Berardi (2021). **Thermal enhancement of windows performance by means of innovative technologies**. Proceedings of 76<sup>th</sup> Italian National Congress ATI (ATI 2021). E3S Web Conf. 315:02015. EDP Sciences. ISSN: 22671242. DOI: 10.1051/e3sconf/202131202015.
- 17 F. Carlucci, F. Fiorito (2021). **Implementation of smart technologies in building envelopes: methodological approach and comparative analyses in a hot-summer Mediterranean climate**. Proceedings of the conference “Colloqui AT.e 2021: Design and Construction. Tradition and innovation in the practice of architecture”, 8-11 September 2021, Salerno. ISBN 978-88-96386-62-0.
- 18 E. Naboni, B. Gherri, G.E. Marchesani, A. di Nunzio, D. Maiullari, R. Cocci Grifoni, F. Fiorito (2021). **Why Coupling MicroClimate and Buildings in Design for Climate Change**. Proceedings of the conference “Colloqui AT.e 2021: Design and Construction. Tradition and innovation in the practice of architecture”, 8-11 September 2021, Salerno. ISBN 978-88-96386-62-0.
- 19 G.R. Dell’Osso, F. Fiorito, F. Iannone (2006). **Componenti di copertura e integrazione del fotovoltaico per il controllo del comfort. Il caso di studio di villa Romanazzi-Carducci in Putignano (BA)**, proceedings of the conference “Architettura e Tecnica delle coperture. Storia, tecnologia e progetti dal sistema ai temi generali dell’involucro”, 10-11 March 2006, Ancona. ISBN 88-7143-266-5 (CD-ROM degli atti).
- 110 F. Fiorito, G. Fuzio (2006). **Tecnologia ed innovazione del controllo della radiazione solare in area mediterranea. Analisi di soluzioni per l’involucro trasparente**, proceedings of the conference “Architettura e Tecnica delle coperture. Storia, tecnologia e progetti dal sistema ai temi generali dell’involucro”, 10-11 March 2006, Ancona. ISBN 88-7143-266-5 (CD-ROM degli atti).
- 111 F. Fiorito, G. Fuzio (2004). **Involucri innovativi per il controllo della radiazione solare**. Proceedings of the first Ar.Tec. conference: “Intersezioni e mutazioni nei rapporti tra Architettura e Tecnica”, 3-4 December 2004, Roma. ISBN 88-6026-035-3 (CD-ROM degli atti).
- 112 F. Fiorito, F. Palmisano, A. Vitone, C. Vitone (2004). **Interventi di miglioramento della affidabilità di pilastri in c.a. di edifici esistenti**. Proceedings of the conference “Giornate A.I.C.A.P. 2004”, 2004. ISBN 88-555-2754-1.
- 113 F. Fiorito, F. Palmisano, A. Vitone, C. Vitone (2004). **Strategie per il miglioramento della sicurezza strutturale di edifici esistenti. Un caso esemplare di applicazione**. Proceedings of the conference “Giornate A.I.C.A.P. 2004”, 2004. ISBN 88-555-2754-1

## 2.7. PATENTS

- BR1The University of Sydney (owner of the patent), G. Ranzi, F. Fiorito, M. Sauchelli (inventors) (2015). Provisional Australian Patent n. 2015901079 on: “**Adaptable Assembly**”.
- BR2F. Fiorito, D. Capurso, E. Cattani (2010-2012). Request for National patent for utility model nr. BA2010U000008 of 18/02/2010. Title: “Involucro Dinamico Attivo”. (Italian National Patent). Patent approved and officially registered in January 2012.
- BR3N. Di Gregorio, F. Fiorito (2009). Request for national patent for Industrial Invention nr. BA2009A000043 of 28/10/2009. Title: “Microgeneratore Eolico”. (Italian National Patent).

## **2.8. ORGANIZATION OF SCIENTIFIC CONFERENCES**

- **Chair (Scientific Responsible)** of the international conference and workshop “Advances in Urban Mitigation Technologies”. Bari, 12 July 2018.
- **Co-Chair of the Conference e Co-Chair of the Scientific Committee.** International Conference i-HBE – International High-Performance Built Environment Conference. A Sustainable Built Environment Conference 2016 Series (SBE16). 17th-18th November 2016, Sydney, NSW, Australia.
- **Member of the Organizing Committee** of the “10th Int. Conference On Indoor Air Quality, Ventilation And Energy Conservation In Buildings – IAQVEC 2019”. 5-7 September 2019, Bari, Italy.
- **Member of the Scientific Committee** of the international conferences of Architectural Science Association (49<sup>th</sup> International Conference 2015, 50<sup>th</sup> International Conference 2016).
- **Member of the Scientific Committee** of the Façade Tectonics 2016 World Congress (Los Angeles, 10-11 October 2016).

## **2.9. CONFERENCE PRESENTATIONS AND CHAIR OF THEMATIC SESSIONS**

- **Invited Presentation (selected)** at the conference “Colloqui.AT.e2022: Memoria ed Innovazione”, 7-10 September 2022, Genova. Presentation on “Technological and energy assessment of an origami-based kinetic shading system in typical and future climate scenarios”.
- **Invited Presentation (selected)** at the conference “Colloqui AT.e 2021: Design and Construction. Tradition and innovation in the practice of architecture”, 8-11 September 2021, Salerno. Presentation on “Implementation of smart technologies in building envelopes: methodological approach and comparative analyses in a hot-summer Mediterranean climate”.
- **Invited presentation** at the Archi.tech Southern Research Conference. Bari, 14 September 2021. Presentation on “Evolutionary scenarios in the construction field: climate changes and new technologies”.
- **Invited Presentation** at the conference “Climate Change. Behavioural Change” organized by the Council of the Engineers of Province of Bari within the SAIE 2019. Bari, 26 October 2019. Presentation on: “Climate changes in urban areas”.
- **Chair** of plenary session nr. 5 of the “10th Int. Conference On Indoor Air Quality, Ventilation And Energy Conservation In Buildings – IAQVEC 2019”. 7 September 2019, Bari, Italy.
- **Invited Presentation** at the event “CASEITALY” at the Stuttgart fair on 28/02/2018 and organized by the Italian Ministry of Economic Development. Presentation on “Building envelope of the future: evolution and innovation”.
- **Invited Presentation** at the conference “Living Buildings & Living Communities: the challenge of regeneration” organized by the International Living Future Institute in Matera on 6/2/2018. Presentation on: “Resilience of built environment: intrinsic qualities and sustainable intervention strategies”.

- **Invited Presentation** to the Smart Building Levante conference digital edition. Bari, 19-20 September 2020. Presentation on: "Mitigation techniques to local and global climate change. Effects on energy consumptions, comfort and health".
- **Invited Presentation** at the "CASEITALY" project presentation meeting. Bari (IT) 9 November 2017. Speech on "Building envelope of the future: evolution and innovation".
- **Invited Presentation** at the international Conference "Albedo for Africa". Rome (IT) 25 October 2017. Speech on "Cooling the cities: recent developments in Australia".
- **Oral Presentation** at the 6th International Building Physics Conference "Building Physics for a Sustainable Built Environment". Turin (IT) 14-17 June 2015. Speech on "Shaping an Origami Shading device through visual and thermal simulations". June 16<sup>th</sup> 2015.
- **Invited presentation** at the ACE 7 seminar "Architecture Culture Environment Seminars – Feed the Planet Energy for life towards 2015 Milano Expo" jointly organized by the Institute of European Studies of Macau and by Politecnico di Milano, with a speech on "Smart Facades". April 11<sup>th</sup> 2014.
- **Oral presentation** at the 2013 ISES World Congress in Cancun (Mexico), with a speech on: "Phase-Change materials for indoor comfort improvement in lightweight buildings. A parametric analysis for Australian climates". November 5<sup>th</sup> 2013.
- **Invited presentation** at the EStoReN workshop on Energy Storage, organized by the Energy Storage Research Network of the University of Sydney at the Woolcock Educational Centre (Glebe-Sydney, NSW), with a speech on "Smart energy storage through PCMs in lightweight constructions". November 21<sup>st</sup> 2012.
- **Poster presentation** at the conference "SHC 2012" organized by the International Energy Agency, Solar Heating and Cooling programme in San Francisco (USA) of the work "Trombe Walls for lightweight buildings in temperate and hot climates. Exploring the use of phase-change materials for performances improvement". July 10<sup>th</sup> 2012.
- **Poster presentation** at the conference "SHC 2012" organized by the International Energy Agency, Solar Heating and Cooling programme in San Francisco (USA) of the work "District geometry simulation: a study for the optimization of solar facades in urban canopy layers". July 10<sup>th</sup> 2012.
- **Invited presentation** at the conference: "Expomeeting: efficienza energetica sostenibilità" organized by EdicomEdizioni at Majesty Hotel in Bari (Italy), with a speech on "Renewable energy sources and new guidelines of Apulia Region (R.R. 24/2010)". May 17<sup>th</sup> 2011.
- **Invited presentation** at the conference: "Expomeeting: efficienza energetica e sostenibilità. Progettare e costruire in Puglia" organized by EdicomEdizioni at Garden Inn Hotel in Lecce (Italy), with a speech on "The new EU directive on building energy saving: a critical analysis". December 3<sup>rd</sup> 2010.
- **Invited presentation** "Envelope role in buildings' energy efficiency" SAIE 2010 – Fair of Bologna (Italy). October 27<sup>th</sup> 2010.
- **Invited presentation** at the conference "costruire con il legno: la sostenibilità come possibilità concreta" organized by Frezza Legnami S.p.A. and Formedil Bari, with a speech on "The benefits of timber structures: from seismic improvement to environmental sustainability". October 1<sup>st</sup> 2010.
- **Invited presentation** at the seminar "Abitare sostenibile: la certificazione di sostenibilità ambientale e la certificazione energetica" organized by ANCE Puglia and by Association Energy Managers at Technical University of Bari, with a speech on "protocols for building certification of sustainability". June 14<sup>th</sup> 2010.
- **Invited presentation** on "building envelope" at SAIE 2009 (Fair of Bologna) – Officine della Cultura. October 30<sup>th</sup> 2009.

- **Invited presentation** at the conference “Costruzioni esistenti. Per mitigare i rischi, per conservare o rinnovare il patrimonio, per bonificare il territorio. Chiarezza normativa e priorità delle valutazioni di affidabilità strutturale” – Ostuni (BR), with a speech on “Example of structural assessment”. July 14<sup>th</sup> 2006.
- **Oral presentation** at the International Conference “Eurosun 2006” – Glasgow (Regno Unito), with a speech on “Innovative technologies for the control of solar radiation in Mediterranean Areas: analysis of solutions for transparent envelopes”. June 29<sup>th</sup> 2006.
- **Oral presentation** at the conference “Architettura e Tecnica delle coperture. Storia, tecnologia e progetti dal sistema ai temi generali dell’involucro” – Ancona, with a speech on: “Technology and innovation of solar radiation control in Mediterranean Area. Analysis of solutions for transparent envelopes.” March 11<sup>th</sup> 2006.
- **Oral presentation** at 26<sup>th</sup> AIVC Conference – Brussels (Belgium), with a speech on: “Use of the stairwell as a component of natural ventilation systems in residential buildings. Comparison of technologies for the external envelope”. September 23<sup>th</sup> 2005.
- **Oral presentation** at the Third International Conference on Construction in XXI century – Athens (Greece), with a speech on: “Performances of Double-Skin envelopes in Mediterranean Areas”. September 16<sup>th</sup> 2005.
- **Oral presentation** at XXXII IAHS World Congress – Trento (Italy), with a speech on “Smart materials for the control of natural light”. September 24<sup>th</sup> 2004.
- **Invited presentation** at the conference “L’involucro Edilizio (Building Envelope)”, organized by Edilportale in Bari (IT), with a speech on “Building envelope: evolution of design and construction process”. April 24<sup>th</sup> 2004.

**2.10. DIRECTION OR PARTICIPATION TO EDITORIAL BOARDS OF JOURNALS, EDITORIAL SERIES, ENCYCLOPEDIAS OR OF BOOKS OF RECOGNIZED VALUE.**

- **Special Issue Editor** of the International Journal *Energy and Buildings* (Elsevier). The journal is included in the list of “A”-tier journals for the scientific field 08/C1 (2022 to date).
- **Associate Editor** of the International Journal *Architectural Science Review* (Taylor and Francis). The journal is included in the list of “A”-tier journals for the scientific field 08/C1 (2012 to date).
- **Associate Editor** of the International Journal *e-Prime – Advances in Electrical Engineering, Electronics and Energy* (Elsevier). (2021 to date)
- **Member of the Editorial Board** of the International Journals *Energy and Buildings* (Elsevier, “A”-tier journal for the scientific field 08/C1 – from 2017 to 2022), *Energies* (MDPI, “A”-tier journal for the scientific field 08/C1 – 2020 to date), *Climate* (MDPI, “A”-tier journal for the scientific field 08/C1 – 2020 to date), *Cogent Social Sciences* (Taylor and Francis – from 2016 to 2021), *International Journal of Structural Glass and Advanced Materials Research* (Science Publication – 2017 to date).
- **Guest Editor** of special issues in the International Journals *Energy and Buildings* (Elsevier), *Procedia Engineering* (Elsevier), *Buildings* (MDPI).
- **Reviewer** for more than 20 International Journals (over 100 reviews) classified as “A”-tier journals for the scientific field 08/C1 or scientific journals for area 08 by ANVUR. (2012 to date).

**2.11. REFEREE FOR COMPETITIVE PROJECTS OR FOR THE ASSESSMENT OF QUALITY OF RESEARCH.**

- **Member of the sub-panel** "Civil Engineering and Architecture" for the "2022 Periodic Assessment of Research, Development, Artistic and Other Creative Activities" of the Ministry of Education, Science, Research and Sport of the Republic of Slovakia.
- **External reviewer** for the European Research Council (ERC), “Starting Grant” programme.
- **External reviewer** of ANVUR (Italian National Agency for the Evaluation of the University and Research Systems). Programs VQR 2004-2010, VQR 2011-2014, and VQR 2015-2019.
- **External reviewer** of MIUR (Italian Ministry for Education, University, and Research). Programmes “Futuro in Ricerca 2013” and “PRIN 2012”
- **External reviewer** for the COST Association for the assessment and selection of new COST Actions.
- **External reviewer** for the Australian Research Council (ARC), funding programmes ARC Discovery Projects and ARC Linkage projects.
- **External reviewer** for the University of Padua. Programme “PISCOPIA fellowships – Marie Curie COFUND Programme”.
- **External reviewer** for the Netherland Technology Foundation STW – Netherland Organization for Scientific Research (NWO), Research Through Design Funding Programme.
- **External reviewer** for the FWO (Research Foundation – Flanders), Belgium.
- **External reviewer** for the Research Grant Council (RGC) of Hong Kong.

**2.12. AWARDS**

- **Best Paper Award** for the paper “Technological and energy assessment of an origami-based kinetic shading system in typical and future climate scenarios”, authored by F. Carlucci, L. Campagna, F. Fiorito, and published in the proceedings of the conference “Colloqui.AT.e 2022 Memoria e Innovazione”, Genova 7-10/09/2022.
- **2021 Buildings Outstanding Reviewer Awards**, awarded by the published MDPI.

---

## 3. SERVICE

### 3.1. UNIVERSITY ADMINISTRATION

At **Polytechnic University of Bari**, from 2006 to 2011 and from 2017-on:

- Coordinator of the joint commission teachers-students of DICATECh department (2021 to date);
- Department Delegate for Education (2020-2021)
- International Exchanges Coordinator for Building Engineering (2017-2021);
- Member of the executive group (management and review) of the Bachelor Degree in Building Engineering and of the Master Degree of Building Systems Engineering (2017-2021).
- Member of the panel for the qualification of Chartered Professional Engineering (1<sup>st</sup> and 2<sup>nd</sup> session 2017);
- Chair of the selection panel for one position of Research Assistant in Architectural Engineering (2017);
- Teaching Coordinator of the 2<sup>nd</sup> Level Master in “Innovazione tecnologica del patrimonio edilizio – MIPE” (2007);

At the **University of New South Wales**, since 2016:

- Member of the Research Cluster in “High Performance Architecture”
- Mentor for a junior staff member (Associate Lecturer) employed at the Faculty of Arts and Design. Mentorship program Faculty of Built Environment/Faculty of Arts and Design.

At **The University of Sydney**, from 2011 to 2016:

- Director of the Master in Architectural Science, Sustainable Design (2013-2015)
- Member of the Research Committee and of the Graduate Research Studies Committee of the Faculty of Architecture, Design and Planning (2014-2015).

#### **4.1. MEMBER OF SELECTION PANELS**

- 2022. Chair of the selection panel for the comparative assessment for one position of junior assistant professor (art. 24 co. 3 a) of the law 30 December 2010 nr. 240) – scientific field: 08/C1 – Design and Technological Planning of Architecture – SSD: ICAR/10 – Architectural Engineering – at the Department of Civil, Environmental, Land, Building Engineering and Chemistry of Polytechnic University of Bari.
- 2023. Member of the selection panel for the comparative assessment for one position of junior assistant professor (art. 24 co. 3 a) of the law 30 December 2010 nr. 240) - scientific field: 08/C1 - Design and Technological Planning of Architecture - SSD: ICAR/10 - Architectural Engineering - at the Department of Civil Engineering and Architecture of the University of Catania.
- 2022. Chair of the selection panel for the comparative assessment for one position of junior assistant professor (art. 24 co. 3 a) of the law 30 December 2010 nr. 240) – scientific field: 08/C1 – Design and Technological Planning of Architecture – SSD: ICAR/10 – Architectural Engineering – at the Department of Civil, Environmental and Mechanical Engineering of the University of Trento.
- 2022. Member of the selection panel for one position of Technical Staff (category D/1) for the Technical Services Office of Polytechnic University of Bari. Position 1: structural engineer.
- 2022. Member of the selection panel for one position of Technical Staff (category D/1) for the Technical Services Office of Polytechnic University of Bari. Position 2: architect.
- 2021. Member of the selection panel for the comparative assessment for one position of junior assistant professor (art. 24 co. 3 a) of the law 30 December 2010 nr. 240) – scientific field: 08/C1 – Design and Technological Planning of Architecture – SSD: ICAR/10 – Architectural Engineering – at the Department of Engineering and Geology of the University “D’Annunzio” of Chieti-Pescara (D.R. nr. 1368/2021, prot. n. 74772 of 01/10/2021).
- 2021. Member of the selection panel for the comparative assessment for one position of senior assistant professor (art. 24 co. 3 b) of the law 30 December 2010 nr. 240) – scientific field: 08/C1 – Design and Technological Planning of Architecture – SSD: ICAR/10 – Architectural Engineering – at the Department of Architecture, Built Environment and Construction Engineering of Polytechnic University of Milan (cod. 2020\_rtdb\_dabc\_7).
- 2021: Member of selection panel of PhD Students for the XXXVII cycle of the PhD course in “Risk and Environmental, Territorial, and Building Development” at the Polytechnic University of Bari.
- 2018 to date: External Referee and member of the panel for the conferral of PhD or MPhil titles at the Polytechnic University of Milan (Italy), at the University of Catania (Italy), at the Cyprus Institute (Cyprus), at the University of Moratuwa (Sri Lanka), at the University of Basque Countries (Spain), and at the Queensland University of Technology (Australia).
- 2017-2021: Chief or member of the panel for positions of research assistant or of research collaborator at Polytechnic University of Bari.
- 2014-2015: Member of the panel for a position of Lecturer in Structural Engineering at the School of Civil Engineering of The University of Sydney.
- 2014-2015: Member of the panel for a position of Senior Lecturer in Structural Engineering at the School of Civil Engineering of The University of Sydney.
- 2012-2015: Member of the panel for the probationary hearings and for the annual progress reviews of PhD students enrolled at the Faculty of Architecture, Design and Planning of The University of Sydney.