

ARCHITECTURE HERITAGE and DESIGN

Carmine Gambardella

XXI INTERNATIONAL FORUM

Le Vie dei  
Mercanti



World Heritage and Dwelling on Earth



GANGEMI EDITORE™  
INTERNATIONAL

Carmine Gambardella  
WORLD HERITAGE and DWELLING ON EARTH  
Le Vie dei Mercanti  
XXI International Forum

Editing: Alessandro Ciabrone

© 2023

Proprietà letteraria riservata

**Gangemi Editore spa**  
**Via Giulia 142, Roma**  
[www.gangemieditore.it](http://www.gangemieditore.it)

Nessuna parte di questa  
pubblicazione può essere  
memorizzata, fotocopiata o  
comunque riprodotta senza  
le dovute autorizzazioni.

*Le nostre edizioni sono disponibili in Italia  
e all'estero anche in versione ebook.*

*Our publications, both as books and ebooks,  
are available in Italy and abroad.*

ISBN 978-88-492-4646-9

**ARCHITECTURE HERITAGE and DESIGN | 11**  
Serie founded and directed by Carmine Gambardella

## **ARCHITECTURE HERITAGE and DESIGN | 11**

Serie founded and directed by Carmine Gambardella

### ***Scientific Committee:***

#### **Carmine Gambardella**

UNESCO Chair on Landscape, Cultural Heritage and Territorial Governance  
President and CEO of Benecon University Consortium

#### **Federico Casalegno**

Professor, Massachusetts Institute of Technology, Boston

#### **Alessandro Ciabrone**

Ph.D., UNESCO and FULBRIGHT former fellow

#### **Massimo Giovannini**

Professor, Università "Mediterranea", Reggio Calabria

#### **Bernard Haumont**

Professor, Ecole Nationale Supérieure d'Architecture, Paris-Val de Seine

#### **Danila Jacazzi**

Professor, University of Campania "Luigi Vanvitelli"

#### **Alaattin Kanoglu**

Professor, Department of Architecture, İstanbul Technical University

#### **David Listokin**

Professor, Director of the Center for Urban Policy Research  
of Rutgers University / Edward J. Bloustein School of Planning and Public Policy, USA

#### **Sabina Martusciello**

Professor, University of Campania "Luigi Vanvitelli"

#### **Paola Sartorio**

Executive Director, The U.S.A. - Italy Fulbright Commission

#### **Elena Shlienkova**

Professor, Samara State Technical University

#### **Rosaria Parente**

Ph.D. in "Architecture, Industrial Design and Cultural Heritage"  
University of Campania "Luigi Vanvitelli"

#### **Nicola Pisacane**

Professor, Head of the Master School of Architecture – Interior Design  
and for Autonomy Courses, University of Studies of Campania "Luigi Vanvitelli"

#### **Riccardo Serraglio**

Professor, University of Campania "Luigi Vanvitelli"

### ***Editorial Committee:***

Alessandro Ciabrone  
Rosaria Parente

*Topics:*

*Heritage*

*Tangible and intangible dimensions*

*History*

*Culture*

*Collective Identity*

*Memory*

*Documentation*

*Management*

*Communication for Cultural Heritage*

*Architecture*

*Surveying*

*Representation*

*Modelling*

*Data Integration*

*Technology Platforms*

*Analysis*

*Diagnosis and Monitoring Techniques*

*Conservation*

*Restoration*

*Protection*

*Safety*

*Resilience*

*Transformation Projects*

*Technologies*

*Materials*

*Cultural landscapes*

*Territorial Surveying*

*Landscape Projects*

*Environmental Monitoring*

*Government of the Territory*

*Sustainable Development*

# WORLD HERITAGE and DWELLING ON EARTH

**Le Vie dei Mercanti**

**XXI International Forum**

Naples | Capri

25 - 26 - 27 May 2023

*President of the Forum*

**Carmine Gambardella,**

President and CEO Benecon University Consortium

UNESCO Chair on Cultural Heritage, Landscape and Territorial Governance

International Scientific Committee

**Aygul Agir,**

Professor, Department of Architecture, Istanbul Technical University, Turkey

**Ahmed Abu Al Haija,**

Professor and Head, Environmental Design, Urban and Architectural Heritage,  
Faculty of Engineering, Philadelphia University, Jordan

**Ali Abu Ghanimeh,**

Vice president Al al-Bayt University Almafraaq – Jordan

**Pilar Garcia Almirall,**

Professor, UPC Ecole Tecnica Superior d'Arquitectura Barcelona, Spain

**Harun Batirbaygil,**

Head, Department of Architecture, Okan University, Istanbul, Turkey

**Artur Beu,**

Professor, University of Art, Tirana, Albania

**Cevza Candan,**

Professor, Istanbul Technical University, Turkey

**Orazio Carpenzano,**

Professor and Director of the Department of Architecture and Design, Sapienza University

**Maurizio Carta,**

Professor, University of Palermo

**Alessandro Ciabrone,**

Benecon University Consortium, UNESCO and Fulbright Former Fellow, Italy

**Annamaria Colao,**

Professor, UNESCO Chair on Education to Health and Sustainable Development

**Joaquín Díaz,**

Professor and Dean, Technische Hochschule Mittelhessen-University of Applied Sciences,  
Department of Architecture and Civil Engineering, Germany

**Yurdanur Dulgeroglu,**

Professor and Head of the Department of Architecture, İstanbul Technical University,  
Turkey

**Yonca Erkan,**

Chairholder UNESCO Chair, Kadir Has University, Turkey

**Kutgun Eyupgiller,**

Professor, Department of Architecture, Istanbul Technical University, Turkey

**Giuseppe Faella,**

Professor, University of Campania “Luigi Vanvitelli”

**Yankel Fijalkow,**

Professor, Ecole Nationale Supérieure d’Architecture Paris Val de Seine, France

**Cherubino Gambardella,**

Professor, University of Campania “Luigi Vanvitelli”

**Stefania Gigli Quilici,**

Professor, University of Campania “Luigi Vanvitelli”

**Xavier Greffe,**

Professor and Director, Centre d’Economie de la Sorbonne Paris, France

**Manuel Roberto Guido,**

Italian Ministry of Heritage and Culture, Italy

**Bernard Haumont,**

Professor, Ecole Nationale Supérieure d’Architecture Paris Val de Seine, France

**Pedro António Janeiro,**

Professor, Faculdade de Arquitectura da Universidade de Lisboa

**Tatiana Kirova,**

Professor, Polytechnic of Turin

**Alaattin Kanoglu,**  
Professor, İstanbul Technical University

**Ilknur Kolay,**  
Professor, Department of Architecture, İstanbul Technical University

**Antonio Lampis,**  
Director Museums, Italian Ministry for Cultural Activities

**David Listokin,**  
Professor, Edward J. Bloustein School of Planning and Public Policy,  
Rutgers University, USA

**Andrea Maliqari,**  
Professor and Rector of the Polytechnic University of Tirana, Albania

**Sabina Martusciello,**  
Professor, University of Campania “Luigi Vanvitelli”, Italy

**Massimo Menenti,**  
Department of Geoscience and Remote Sensing, Faculty of Civil Engineering  
Delft University of Technology, The Netherlands

**Rusudan Mirzikashvili,**  
Ministry of Cultural Heritage, Georgia

**Louise Mozingo,**  
Chair, Landscape Architecture and Environmental Planning,  
University California Berkeley, USA

**Maria Dolores Munoz,**  
Professor, UNESCO Chair, EULA Environmental Centre, University of Concepcion, Chile

**Florian Nepravishta,**  
Dean of the Faculty of Architecture and Urbanism,  
Polytechnic University of Tirana, Albania

**Luis Palmero Iglesias,**  
Politécnica de València UPV, Spain

**Jorge Peña Díaz,**  
Professor, Facultad de Arquitectura,  
Instituto Superior Politécnico José Antonio Echeverría, Cuba

**Rosaria Parente,**  
Ph.D. in “Architecture, Industrial Design and Heritage” at the University of Campania



**Rosario Pivonello,**  
Professor, University of Naples “Federico II”

**Mosè Ricci,**  
Professor, University of Trento

**Daniele Riccio,**  
Professor, University of Naples “Federico II”

**Paola Sartorio,**  
Executive Director, The U.S.- Italy Fulbright Commission

**Lucio Alberto Savoia,**  
Ambassador, Secretary General Emeritus,  
Italian National Commission for UNESCO, Italy

**Maria Anita Stefanelli,**  
Department of foreign languages, literature and Culture,  
Università degli studi RomaTRE, Italy

**Elena Shlienкова,**  
Professor of Architecture and Construction  
Institute of Samara State Technical University, Russia

**Eusebio Leal Spengler,**  
Professor, Historiador de la Ciudad de La Habana,  
Presidente de Honor del Comité Cubano del ICOMOS, Cuba

**Ana Luiza Thompson-Flores,**  
Director of the UNESCO Regional Bureau for Science and Culture in Europe, Venice (Italy)

**Isabel Tort,**  
Professor, Universitat Politècnica de València UPV, Spain

**Marco Trifuoggi,**  
Professor, University of Naples “Federico II”

**Andrey V. Vasilyev,**  
Head of Department, Samara State Technical University of Russian Federation

**Leandro Ventura,**  
Director of the Central Institute For Ethno-anthropology, Italian Ministry for Cultural Activity

**Yaliang Xiang,**  
Professor, China Academy of Art, China

**Yang Xiujing,**  
Professor and Director, China Academy of Art, China

Organizing Committee

**Alessandro Ciambrone**, Coordinator of the scientific program and relationships with the International Scientific Committee

**Rosaria Parente**, Scientific Assistant of the International Committee  
President

**Dario Martimucci**, Web master

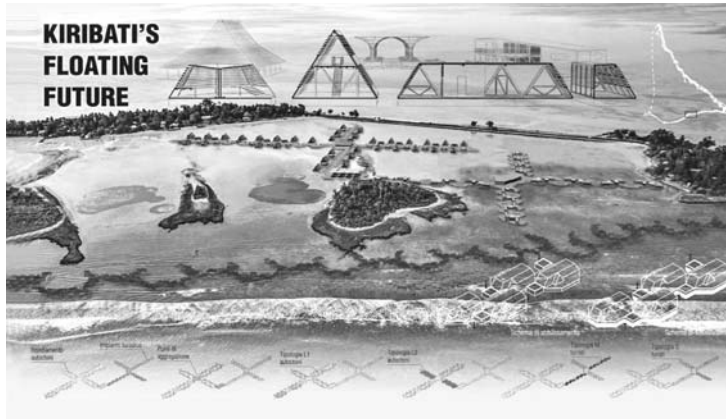
### **Peer review**

Scholars has been invited to submit researches on theoretical and methodological aspects related to Smart Design, Planning and Technologies, and show real applications and experiences carried out on this themes. Based on blind peer review, abstracts has been accepted, conditionally accepted, or rejected. Authors of accepted and conditionally accepted papers has been invited to submit full papers. These has been again peer-reviewed and selected for the oral session and publication, or only for the publication in the conference proceedings.

### **Conference report**

200 abstracts and 330 authors from 30 countries:

Albania, Australia, Belgium, Bosnia and Herzegovina, Brasil, Bulgaria, California, Chile, China, Cipro, Cuba, Egypt, France, Germany, Greece, India, Italy, Japan, Jordan, Malta, New Jersey, New York, Poland, Portugal, Russian Federation, Serbia, Spain, Texas, Tunisia, Turkey



**ID 034** *A future for Kiribati. New models for resilient housing settlements*

**Tiziana FIRRONE**

*University of Palermo, Italy*

**Stefano PUGLISI**

*Architect, Palermo*

**Andrea SILIGATO**

*Architect, Palermo*

According to the Special Report on the Ocean and Cryosphere in a Changing Climate, the sea level has grown at a rate of 3.6 mm per year in the period between 2005 and 2015, increasing faster over the last century due to the melting of ice caps and the thermal expansion of the ocean. This increases the risks for populations living in coastal areas and in particular for those living in arctic regions and in the atolls, like the islands of Kiribati which, by the middle of the century, could become uninhabitable. The coastal protection systems and the adaptation processes that use ecosystems and solutions derived from nature (ecosystem-based adaptation), foresee rather long realization times and the population of Kiribati runs the risk of being forced to move elsewhere in a short time.

From these premises, the study conducted at the Department of Architecture of the University of Palermo takes its cue, aimed at identifying new housing models capable of facing imminent emergencies and avoiding the abandonment of the lands of origin. Sustainable housing solutions, designed in accordance with the local settlement tradition and able to satisfy the needs of a community that, although not having no role in the production of greenhouse gases, it must adapt to the new environmental conditions imposed by industrial development policies from which it is totally foreign.

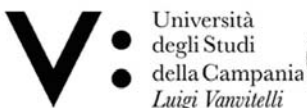
- 15** ID 001. World Heritage Sites in Germany and Dwelling on Earth  
Natasa ZIVALJEVIC-LUXOR, Hartmut PASTERNAK
- 16** ID 002. Territorial restoration and redevelopment. The case of the Pentimele Hill  
Caterina GATTUSO, Domenico GATTUSO
- 17** ID 003. Drawing the walls of time and space: the Fontana dei Ciechi at Bonefro  
Piero BARLOZZINI, Fabio LANFRANCHI
- 18** ID 004. The measurement of decorum as a practice of knowledge in the expanding Naples of the early twentieth century: some examples  
Maria MARTONE, Alessandra Marina GIUGLIANO
- 19** ID 005. Vanished landscapes. New scenarios for dwelling on earth with the awareness of the past for a sustainable future. The ancient Vallis Regia, now Lake Barrea  
Maria MARTONE
- 20** ID 006. Landscape and history in the tip of the leaf. Preservation and enhancement of the historical olive grove of the Grottoes of Catullus.  
Flora BERIZZI, Nicola CASTOLDI
- 21** ID 007. From waste to resource for a sustainable future  
Anna CATANIA
- 22** ID 008. The Greener Europe. Ecosystem Services and Green Infrastructure for Resilient Cities  
Patrizia BURLANDO
- 23** ID 009. Ancient construction and new technologies. An experiment for the "Borgata" of Syracuse  
Fernanda CANTONE, Francesca CASTAGNETO, Vittorio FIORE
- 24** ID 010. Environmental recovery strategies for sustainable and resilient regeneration  
Francesco CRUPI
- 25** ID 011. The existing building as a source of energy: proposal of a method for the development of operational procedures for reuse  
Roberta ZARCONI, Anahita MIRANI
- 26** ID 012. Genua Picta 1982-2023  
Giulia PELLEGRINI, Francesca SALVETTI
- 27** ID 013. Protecting the past to save the present  
Maria NATALE
- 28** ID 014. Restoration, industrial design and drawing. A renewed Humanism for a renewed design concept the journal "Arte Italiana Decorativa e Industriale"  
Saverio CARILLO
- 29** ID 015. 'Historical' ecology and new Humanism: the perspective of the ancients.  
Maria Carolina CAMPONE
- 30** ID 016. The future of the metropolis above active railway  
Carlo MORETTI
- 31** ID 017. AI and green transition: solutions for to nudge people towards correct waste management practices  
Michela SCAGLIONE
- 32** ID 018. Dwelling on Earth by learning from Nature. Urban and building systems more sustainable and resilient through the use of Nature Based Solutions and Biomimicry  
Caterina MELE
- 33** ID 019. Landscapes in visualisations of architectonic hypotheses  
Dominik LENGYEL, Catherine TOULOUSE
- 34** ID 020. Knowledge aspects of cultural heritage: digitalisation and virtual dissemination  
Martina CASTALDI, Sara ERICE

- 35** ID 021. Stefania Filo Speciale's palazzina at the Parco Grifeo in Naples. An example of private housing for the middle-class  
Chiara INGROSSO
- 36** ID 022. Survey, analysis and model. Digital reconstruction and virtual fruition of Raphael's original Stables in the Villa Farnesina  
Maria Rosaria CUNDARI, Giuseppe ANTUONO, Gian Maria BAGORDO, Gian Carlo CUNDARI
- 37** ID 023. Built environment, art and strategies for landscape care and maintenance: artist residencies in Massa Lubrense  
Francesca CIAMPA, Stefania DE MEDICI, Maria Rita PINTO
- 38** ID 024. A new Museum of the suburbs in Rome  
Fabio BALDUCCI
- 39** ID 025. The re-use of Lilong in Shanghai  
Barbara GALLI
- 40** ID 026. BIM and Blockchain a contribution for the security of building heritage system  
Giovanni MONGIELLO, Gennaro MONGELLI
- 41** ID 027. Study for Improvement of Evacuation Safety of Cul-de-sacs Roads in Historic Streets – A Study on the Installation of Emergency Evacuation Doors in Kamigyo-ward, Kyoto Japan  
Takeyuki OKUBO, Yuki NAGASAWA, Dowon KIM
- 42** ID 028. Maintaining the built environment through community engagement tools and strategies: playground as experimentation platform  
Maria Giovanna PACIFICO, Anna Rita VILLANO, Katia FABBRICATTI
- 43** ID 029. Architecture and biomechanics  
Efisio PITZALIS, Barbara BONANNO
- 44** ID 030. Landscapes, Emergencies and Architecture  
Enza SANTORO, Gigliola AUSIELLO
- 45** ID 031. Dwelling the spaces below the road. Urban design strategies in the wake of the circular economy  
Luigi SIVIERO, Raffaele SPERA
- 46** ID 032. Preserve the human  
Mariacarla PANARIELLO
- 47** ID 033. Transform of Traditional Urfa Houses Located in the Historical Area of the City  
Fatma Sebnem KULOGLU YUKSEL
- 48** ID 034. A future for Kiribati. New models for resilient housing settlements  
Tiziana FIRRONE, Stefano PUGLISI, Andrea SILIGATO
- 49** ID 035. Intervention strategies for the enhancement of the Peruvian route of the Inca royal path Qhapaq Ñan  
Tiziana FIRRONE
- 50** ID 036. Visions, strategies, and projects. The names by the new Italian Design and Craft movement  
Luca PARODI
- 51** ID 037. A new legacy. The shape of contemporary reuse  
Concetta TAVOLETTA
- 52** ID 038. A new model of detention. The Bolzano prison  
Filippo MARCONI
- 53** ID 039. The analysis of values as a strategy for the conservation of cultural heritage  
Michela BENENTE, Irene RUIZ BAZÁN
- 54** ID 040. Puzzle design. Between Vision, Speed, Design and Sustainability  
Andrea MARCUCETTI
- 55** ID 041. Emotions and memory to change behaviours  
Michela BENENTE, Valeria MINUCCIANI

- 56** ID 042. Urban spaces of cultural contamination. Creative places of sociality, integration, inclusion  
Teresa CILONA
- 57** ID 043. Goal 1. No to poverty: a social community center for access to basic human needs for health, education, sanitation  
Sabina MARTUSCIELLO, Carlo COPPOLA, Silvia BUONOMANO, Francesco DI FIORE
- 58** ID 044. Dwelling the Mediterranean Heritage. Regenerative Networks for Inclusive and Resilient Communities and Territories  
Irene POLI, Francesca ROSSI
- 59** ID 045. Between image and logos: the paradigm of a visual language in the Valcamonica rock drawings  
Stefano CHIARENZA
- 60** ID 046. The project of public space. Towards adaptive infrastructures for more flexible and ecological city  
Rosalba BELIBANI, Michele LAZZERA, Pina CIOTOLI
- 61** ID 047. Innovative methodologies to support sustainable urban regeneration  
Barbara MESSINA, Carla GIORDANO
- 62** ID 048. Urban transitions. The city in the former Ophelia Asylum in Potenza  
Luca ZECCHIN
- 63** ID 049. Advancing Sustainable Building Envelope Systems through LCA: A Comparative Analysis of Natural Stone and Concrete Envelopes towards Circular Economy Principles  
Anahita MIRANI, Roberta ZARCONE
- 64** ID 050. Adaptable design  
Angela PALUMBO
- 65** ID 051. Representation to communicate and raise awareness  
Massimo MALAGUGINI
- 66** ID 052. Conceptual Paradigms - From Vernacular to Digital  
A. BASTO DIOGO
- 67** ID 053. Eco-equipped Production Areas the Italian way of Eco Industrial Parks  
Salvatore LOSCO, Claudia de BIASE
- 68** ID 054. The rewilding approach in urban design. The case study of Budolfi Plads in the historic centre of Aalborg (DK)  
Alessandra BADAMI
- 69** ID 055. Territorial governance and climate adaptation. Towards an environmental perspective of urban regeneration  
Laura RICCI, Carmela MARIANO
- 70** ID 056. Urban vineyards as example of city regeneration  
Francesca MUZZILLO, Fosca TORTORELLI
- 71** ID 057. Results of Study of Atmosphere Air Pollutions Caused by Automobile Transport in Urban Conditions on the Example of Togliatti City of Russia  
Andrey V. VASILYEV
- 72** ID 059. ScanToBIM and Digital Twin of architectural heritage: case study on Badia of San Lorenzo, Casamassima in Italy  
Rosaria PARENTE, Riccardo TAVOLARE
- 73** ID 060. Unresolved perfection  
Michele DOVERE
- 74** ID 061. Nature for understand the resilience architecture  
Paolo PISCITELLI
- 75** ID 064. Valorising public and private spaces with murals  
Alessandro CIAMBRONE

GANGEMI EDITORE<sup>®</sup>  
INTERNATIONAL

FINITO DI STAMPARE NEL MESE DI MAGGIO 2023  
[www.gangemieditore.it](http://www.gangemieditore.it)



## SUPPORTED BY



With the support of  
**Regional Bureau  
for Science and Culture  
in Europe**



Unione Industriali  
Napoli



UNIVERSITÀ DEGLI STUDI DELLA CAMPANIA  
LUIGI VANVITELLI  
SCUOLA POLITECNICA E DELLE SCIENZE DI BASE  
DIPARTIMENTO DI ARCHITETTURA  
E DISEGNO INDUSTRIALE



Città di **Capri**