

The 'Restoration Road' Culture and Practice of Heritage Conservation and Enhancement

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BRIDGES
ITALY - CHINA

4, 2025

THE VALUE OF SCIENCE AND TECHNOLOGY
IN ADDRESSING THE GREAT CHALLENGES OF OUR TIME

edited by

Francesco De Matteis and Diana Angela Palma

with the collaboration of

Nataschia Conforti, Michaela Riccio, Emanuele Scarpato, Diletta Taverni



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*Monographic Series by the Department of Social sciences and humanities,
cultural heritage of the National Research Council*



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**THE VALUE OF SCIENCE AND TECHNOLOGY
IN ADDRESSING THE GREAT CHALLENGES OF OUR TIME**

Inaugural Session and Thematic Forums Proceedings

**Italy-China Science, Technology and Innovation Week
13th edition**

Promoted by



中华人民共和国科学技术部
Ministry of Science and Technology of the People's Republic of China

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**北京市科学技术委员会、
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This volume presents the proceedings of the inaugural session and thematic forums held in Naples and Venice from November 26th to 28th, 2024, on the occasion of the 13th edition of the Italy-China Science, Technology and Innovation Week. The event is part of the bilateral programme of scientific and technological cooperation between Italy and China. It was jointly promoted by the governments of the two countries through the Ministry of Universities and Research of the Italian Republic and the Ministry of Science and Technology of the People's Republic of China. The programme was coordinated, on the Italian side, by the Idis Foundation – Città della Scienza, in collaboration with the National Research Council of Italy, and, on the Chinese side, by the Beijing Municipal Science & Technology Commission and the Administrative Commission of Zhongguancun Science Park. The 13th Edition also benefited from the cooperation of Ca' Foscari University of Venice (Italy) and the International Technology Transfer Network (China). The thematic forums brought together scholars, researchers and experts from Italian and Chinese universities and research centers, who engaged in a rich and wide-ranging exchange of views, driven by interdisciplinary approaches and sustained dialogue between the two scientific communities.

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PREMISE
COOPERATION BETWEEN ITALY AND CHINA. A SHARED
RESPONSIBILITY IN THE WAKE OF A THOUSAND-YEAR-OLD TRADITION

Cooperation is an implicit dimension of intellectual work. Since ancient times, the inherent tendency of intellectual work to look beyond what is already known has resulted in the overcoming of geographical, political, cultural and linguistic barriers, and in the different historical periods it has found forms adapted to the different contexts.

Today, in an increasingly globalized world, despite the right and opportune persistence of cultural specificities and even different visions on the ways of organizing social life, cooperation between peoples is confirmed as a common value and, even more than in the past, as a necessity to be accomplished. The challenges humanity is facing have, in fact, a global dimension and there is a shared awareness that only a common and coordinated commitment can make it possible to respond to these challenges effectively.

Relations between the Western world and China have a history that has its roots in antiquity, and as early as the 2nd century BC, with the opening of the *Silk Road*, diplomatic relations between China and the Roman Empire were initiated.

The Italians have been the main protagonists of the encounter between European and Chinese culture from the time of Marco Polo's voyages to the 18th century¹ onwards, and even today our country continues to play an essential role in spreading knowledge of Chinese civilization in Europe and European civilization in China, drawing inspiration from the spirit that originally animated the *Silk Road* and which was based on the concepts of peace and cooperation, openness and inclusion, mutual learning and mutual benefit.

The fact that the Italian Government has given to the Fondazione Idis-Città della Scienza the role of coordinating the most important event in which the meeting between Italy and China takes place with reference to the prospects opened up by developments in the cultural and scientific spheres is, of course, a source of pride for the Foundation but it is, at the same time, recognition of a responsibility that must be exercised in keeping with the values that our entire country and the city of Naples express.

Placing principles such as solidarity, cooperation and responsibility at the center of the processes of scientific and technological innovation obliges man to design forms of social evolution that do not obscure the *humanitas* that permeates the humanistic culture of which Italy - with Naples often playing a leading role - has become the promoter throughout the world. Starting from the *Circolo degli Scipioni*, Italy has tried to design, through practice

¹ MENEGATTI 2005; BERTUCCIOLI, MASINI 1996; MENEGUZZI ROSTAGNI 2012.

and thought, a modernity in which attention to man and the dynamics of history, as also affirmed by Pope Francesco, “contributes to a vision of the world that is opposed to the individualist [...] because it is based on the interconnection between people and has the common good as its goal”².

Cooperation is therefore not to be understood as a neutral or merely technical space, but as a sphere of authentic commitment, where the relationship with the other becomes an ethical opportunity and shared responsibility.

Today, everyone – by which is meant the institutions, but also all social actors including individual citizens – is called to play a role in governing the epochal change that the world is experiencing.

It is a change that has two engines acting synergistically: the impetuous developments of science and technology, on one hand, and the processes of globalization, on the other. In similar epochal passages of the past, innovative experiences of thought and of man’s place in the world have flourished, such as the season of Humanism that asserted itself in the transition from the medieval to the modern world. A similar effort of conception and creativity is therefore required which cannot disregard the fact that there is an inextricable connection between the social, economic, demographic and environmental dimensions. This also means that it is necessary to overcome the fragmentation of the disciplines and the opposition between the “different areas of knowledge”, both between the different scientific fields and between these and the human sciences. It is therefore necessary to support the organization of collective research, in every sphere of knowledge, research that is certainly characterized by scientific rigor, but also supported by the experience of solidarity gained by researchers. It is thus a matter of encouraging, by overcoming national barriers, the formation of integrated research groups between researchers and experts representing the world of education, professions, arts, commerce and enterprise. At the heart of this joint effort there are the idea of sustainability in all its possible dimensions, from the environmental to the social and economic, and the idea of responsibility not simply understood as technical responsibility, limited to specific aspects, but as a commitment to a dimension that takes into account the totality of man, the world and the relationship between man and the world.

This is the framework and, at the same time, the perspective in which the work for the organization and realization of the 13th edition of the Italy-China Science, Technology and Innovation Week took place, a work that Fondazione Idis-Città della Scienza carried out in agreement with the Ministry of University and Research and in collaboration with

² Pope Francis’ speech on the occasion of the international convention “Solidarity, Cooperation and Responsibility: the antidotes to fight injustices, inequalities and exclusions” organized by the Fondazione Centesimus Annus, October 21-22, 2021.

the National Research Council, starting from the priorities identified in the Action Plan for the strengthening of the China-Italy Global Strategic Partnership (2024-2027). This was a team effort that saw the universities, research centers and all those in the world of innovation who care about sustainability and responsibility at the forefront. In this context, Fondazione Idis-Città della Scienza joined the team effort with actions taken were perfectly in line with its statutory principles, particularly with the promotion and dissemination of scientific, technological, humanistic and artistic culture, and with the view to contribute to the development of a knowledge-based society in a truly democratic direction where the benefits that the growth of knowledge in the various fields can offer possibly will spread to all social actors, from institutions to associations, companies and individual citizens.

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THE “RESTORATION ROAD” CULTURE AND PRACTICE OF HERITAGE CONSERVATION AND ENHANCEMENT

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Keywords: china center, restoration road, heritage, conservation

1. Premises

The history of the relations between the Politecnico of Torino and China has a significant starting point in 2005 with the *Politong Program*, which involved PoliTO, Tongji University (Shanghai), and Politecnico of Milano. Stemming from intergovernmental dialogue between Italy and China, the project was funded by the Italian Ministry of Education, Universities and Research (MUR) until 2013 and subsequently primarily by China. Over the years, more than 1000 students have benefited from the program in Information and Communication Engineering, Mechanical and Production Engineering, and Systemic Design. In 2017 finally, Politecnico of Torino established the China Center¹ with the aim of offering a strategic vision and dedicated management of activities in which China is the leading partner.

The China Center introduced several structural innovative aspects into PoliTO's approach to China and intends to promote and facilitate relations and communications with Chinese institutions; provide support for planning and management of projects and research activities with Chinese partners; strengthen the competitiveness of the Politecnico in China in the field of training, research, and consultancy in the academic, institutional and industrial sectors; increase the familiarity of scholars and professionals with the Chinese university system and the Chinese market.

It should be noted that the China Center is not conceived as a Research or an Innovation center but rather as a facilitator/promoter of the research and training activities conducted by the PoliTO departments in cooperation with Chinese partners. The China

¹ <https://www.polito.it/en/polito/international-campus/politecnico-around-the-world/china-center> (last consultation 02/01/2025).

Center supports specific research groups such as the China Room², established in 2016, dedicated to urban and architecture studies in China, or the automotive group, recently enriched with a specific headquarters dedicated to Chinese collaborations and supporting various individual researchers or small groups as well.

Since its start in 2018, the China Center has contributed to achieving different results alongside implementing traditional education programs in partnership with top partner HEIs, such as bilateral Student Exchange agreements and Double Degree agreements at all levels.

Among the latter, we can mention the Joint PhD in Architecture with Tsinghua University (2018), the Agreement on scholarships for full-degree and visiting PhD students (2019, China Scholarship Council, CSC), the DD Master of Science in Urban Design with South China University of Technology (SCUT, from 2020)³.

2. Intersecting perspectives on the future of architectural heritage: best practices in academic cooperation between Italy and China

It is precisely within the scope of the Dual Master's Degree Program in Urban Design with SCUT (South China University of Technology) in the *Restoration* course that studies have been started that concern the conservation and enhancement of the Ancestral Hall in the Village of Lijiao⁴. The teaching activity involved a group of 30 students who worked on the subject of the exercise starting from a study and analysis of the current context, with a methodological approach attentive to the transformations of urban morphology. The fundamental objective was to identify the remains of the original urban system, undergoing strong transformation and demolition, with the aim of protecting and preserving its identity. This activity was then followed by a careful analysis of the geometric and architectural structure of the studied assets, with an identification of the materials and their state of

² <https://chinaroom.polito.it> (last consultation 02/01/2025).

³ More details in BONAGLIA, BONINO, FACCHINETTI, FRISOLI, BEGANI, GOTTARDO, GONZO, 2023. Similarly, in the field of Architecture, Politecnico has had the opportunity to develop contacts not only with large public institutions, like universities and their design institutes but also with private firms, which have led to significant design opportunities. These opportunities are not only meant as business opportunities but can help PoliTO understand a rapidly transforming reality. In some cases, these relations have involved other entities in the Turin area, which PoliTO collaborates with, and in particular, some architectural firms involved in international collaboration - especially in China - with PoliTO through an agreement signed in 2019 with the Torino Council of Architects.

⁴ The Restoration course, active since the 2020 academic year, is held by Professors Emanuele Morezzi and Francesco Novelli, from Politecnico of Torino. For similar contributions, see also PUGNALONI, CARLOROSI, ISSINI, 2011.

alteration to identify possible restoration interventions. The results of these investigations constitute a wealth of knowledge that is very important for the drafting and testing of new guidelines aimed at the implementation of planned conservation programs for this heritage, respecting its material and immaterial value components.

Also, within the framework of cooperation between Politecnico of Torino and South China University of Technology, on December 6, 2024, the Cantonese Opera Art Museum in Guangzhou hosted the *Sino-Italian Heritage Day*, an event dedicated to promoting the recovery, enhancement, and preservation of architectural and urban heritage in South China’s Greater Bay Area (GBA).

The initiative, organized by the Department of Architecture and Design at Politecnico of Torino and the School of Architecture at the South China University of Technology, with support from the Consulate General of Italy in Guangzhou and Urban Elephant Architects and Politecnico of Torino China Center, reinforced the partnership between the two universities, which began in 2016.

The day highlighted the added value of cultural heritage recovery across architectural, landscape, and industrial contexts, remarking how Italy and China are the two nations with the highest number of UNESCO World Heritage Sites. In this process, preserving heritage and passing it on to future generations means keeping alive the material and intangible values embodied in every artifact through in-depth knowledge and projects that ensure their relevance in contemporary life.

The event of Heritage Day has also been the occasion to introduce presentations by academic experts from Italian and Chinese institutions emphasizing the vital role of cultural education in heritage preservation, showcasing interventions on archaeological sites, and exploring how cultural heritage can drive high-quality urban-rural development⁵.

Moreover, it was presented *La Via del Restauro (Restoration Road)*, a project developed in collaboration with the Conservation and Restoration Center at La Venaria Reale (Italy)⁶. The project’s objectives are aimed at highlighting how the dialogue between historical landscapes and contemporary architecture is a fundamental principle for preserving territorial heritage. Thoughtfully integrated contemporary structures can enrich historic settings with new meanings and narratives.

⁵ Luigi Franciosini, professor of Architectural and Urban Design at Roma Tre University (Italy), and Cao Jing, representing the Guangdong Provincial Institute of Cultural Relics and Archaeology.

⁶ The project was presented by Carla Bartolozzi and Francesco Novelli, with a speech entitled *Intersecting perspectives on the future of architectural heritage*. Carla Bartolozzi is the scientific director and creator of the project, together with Michele Bonino (Director of the Department of Architecture and Design) and Sara Abram (General Secretary of the CCR - Center for Conservation and Restoration Venaria Reale).

The Restoration Road is a trilogy of videos⁷ produced within the Multimedia Lab of the Politecnico of Torino: all three videos were conceived around case studies belonging to the World Heritage List, a theme that unites our two countries and which - from the point of view of exchanges and collaborations - opens up a dialogue that could be very interesting for the future. The first one of the three videos is dedicated to the topic of the Royal Residences of the House of Savoy and their historic gardens⁸, the second one is dedicated to the wine landscapes of the Langhe Roero and Monferrato⁹. Finally, the third video is dedicated to Industrial Archaeology and urban transformation projects, with the case of Ivrea industrial city.

The aim is to illustrate in which way our monument (first video), landscape (second one), or legacy from the industrial heritage (third one) can be or become the wheel for development in economic, social, and cultural fields. Especially if we consider, in the three different categories, the great weight that being part of the WHL represents.

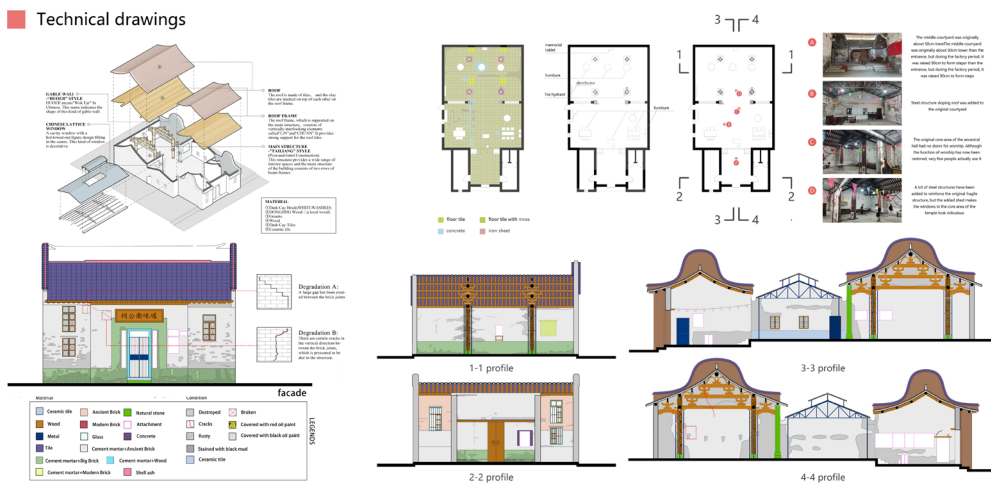


Fig. 1. Julai Ancestral Hall of Wei in Lijiao Village, Technical drawings, materials and alterations analyses, Restoration course, Dual Master's Degree Program in Urban Design, 2024. Students: Daqi Chen, Sunpeng Chen, Zhaohong Du, Hongming Xu. Professors: Emanuele Morezzi, Francesco Novelli.

⁷ <https://youtu.be/mKN1PCkn59k> (last consultation 02/01/2025).

⁸ Among the various connections, we can underline the one with the historical imperial palaces in China, like the Summer Palace in Beijing.

⁹ We have a joint with the Honghe Hani terraces (a twinning agreement is already running).

3. Conclusion

The initiatives cited which, of course, do not claim to be an exhaustive account of a broad and articulated international comparison, represent, however, a (virtuous) synthesis of comparison and cooperation, consolidated over the years with agreements and collaborations still active between the Politecnico di Torino and the Chinese partner universities.

The same documentaries briefly illustrated want to encourage and promote, in terms of cooperation, activities aimed at the creation of workshops intended as places of exchange, where work will be done on cultural comparison and the different operational practices, from the restoration project to the conservation interventions on individual assets, to the scheduled maintenance plans.

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SCIENCE, TECHNOLOGY AND INNOVATION ITALY-CHINA WEEK
XIII EDITION

THE VALUE OF SCIENCE AND TECHNOLOGY IN ADDRESSING THE GREAT
CHALLENGES OF OUR TIME

PROMOTED BY

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