

## Events

## After the Damages The Training Project Becomes an International Risk Management Academy

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Now in its second year, the *Summer School After the Damages* not only confirms and strengthens the Higher Education project on the management of disaster or calamitous events and their impact on the built environment, but launches an International Academy aimed at promoting an interdisciplinary and integrated approach through a range of events. In addition to the annual intensive course, different events have been organised to address and disseminate the various topics of the Academy to a wide audience, both in a popular and scientific way: Winter Focus, Spring Focus, Talks, seminars and an international award are the communication formats and events periodically developed.

The set of scientific contents addressed remains holistic and interdisciplinary, and includes climate change, risk reduction solutions, participatory governance tools, strategies for environmental protection, social and economic resilience. Particular attention is given to the documentation of the existing assets, through integrated diagnostic survey, digitization and modelling of complex systems, monitoring and tools for an aware design applied to heritage conservation. The project brings together Italian and international experts as lecturers and members of the Scientific and Technical-Scientific Committees, including

some members of the Italian Union for Drawing, who have contributed to the heritage documentation issues.

The second edition of the Summer School, held between 5 and 20 July 2021, confirmed the success of the previous experience, demonstrating a growing interest in the topics proposed and an appreciation of the way the course was organized. The initiative was indeed carried out through digital platforms but in a synchronous and participatory way, creating a sharing experience between people with different research expertise from different geographical areas.

In this edition 67 participants were selected, and 57 lecturers were involved, from a total of 23 countries on 5 continents. Already this year as well, the course offered intensive training to different categories of users and actors involved in emergency management: public administration managers, government agency staff, international organizations, researchers, professionals and specialists had the opportunity to learn contents from different scientific fields, such as architecture, engineering, cultural heritage, economics, political and social sciences, computer science and earth sciences.

During the two weeks of the Summer School, an intense and active exchange

of views was created, guided by experienced lecturers in the different areas of emergency management, documentation, reconstruction and innovation of the intervention project on heritage affected by catastrophic events, covering, among others, the topics of resilience, socio-economic impacts, inclusiveness and applied technologies, sharing international and multi-scalar approaches.

By refining the concept of the previous edition in a new balance between lectures, virtual visits and group work by the participants, the objectives of the Higher Education project focused on exploiting innovations in the field of post-disaster management to provide up-to-date skills to enable participants to play an active role in their different disciplinary or professional fields.

The training program dealt with different topics and alternated theoretical and practical-operational contents through case studies, national experiences and international approaches, natural and anthropic risks, research and professional activities.

The management of damage documentation and post-earthquake intervention projects was addressed in different ways, from technological evolution in the field of structural reinforcement to the analysis of seismic damage to fortified architecture; from urban and typological



Fig. 1. After the Damages event at the Italian Pavilion of the 17th International Architecture Exhibition of the Venice Biennale. Photocredit: Claudia Pescosolido / After the Damages.

logical approaches in the management of damage caused by the earthquake in central Italy, to the analysis of the effects of reconstruction on historic centers. In this framework, several in-depth studies were specifically focused on the survey, documentation and representation of heritage as an essential basis for knowledge, analysis and information management. From digital survey technologies to catalogue sheets optimization, from integrated survey to the use of sensors and image processing for structural analysis and monitoring, up to Building Information Modeling applied to heritage, the lectures dedicated to technologies focused attention on a critical and aware use of the tools available today. Identity surveying and intangible resilience in small historical inner cities was also a topic of great interest and up-to-date relevance.

Several international experiences of damage management and mitigation were also explored, in Armenia, China,

Spain, Ecuador, Brazil, India and Greece. The experts involved addressed various risk management issues in these contexts, ranging from strategies for the preservation of traditional earthen architecture as a resilient approach to change, to the social impacts of damages in contexts such as the Amazon, or the damage suffered by many Brazilian contexts due to fires.

Urban and environmental analyses, hydro-geological risk, management of movable assets, participatory strategies and social inclusion in the community's response to damage, urban regeneration, international cooperation, Green Building protocols and economic-financial management completed the set of topics addressed, stimulating comments and considerations on such a complex and articulated frame.

This Summer School edition was also featured by an event of great relevance, the participation of *After the Damages* in the 17th International Architecture Exhibition of the Venice Biennale. At the Italian Pavilion the *seminar Resilient Territories, Resilient Communities* was held, in which the International Academy, the Firespill Project, the Agency for the 2012 Earthquake Reconstruction, the Emilia-Romagna Region, the Ministry of Culture and Clust-ER Build had the opportunity to outline their activities. Speakers from Nepal and Mexico, members of ICCROM and ICOMOS completed the panorama of international experiences.

Even in this second edition four virtual visits were made to four restoration sites, one for each of the provinces of Ferrara, Modena, Bologna and Reggio Emilia affected by the 2012 Emilia earthquake. These sites were explained by the Regional Agency for Reconstruction-Sisma 2012, the Authority for Archaeology, Fine Arts and Landscape

for the metropolitan city of Bologna and the provinces of Modena, Reggio Emilia and Ferrara, members of the Joint Commission, designers, contractors, restoration companies and local government representatives, who illustrated the integrated approach to the restoration process.

The Abbey of Nonantola and the Cathedral of Ferrara, Castello Lambertini in Poggio Renatico, Rocca Possente in Stellata di Bondeno and Palazzo dei Ronchi in Crevalcore provided valuable thematic insights, from the knowledge process to the methodological one that guided the restoration project.

At the end of the two-week course, the final workshop confirmed the significance of the project simulation aimed at exchanging experiences, sharing knowledge and structuring multidisciplinary work among the members of the different groups that the *After the Damages* scientific coordinators set by pursuing the maximum diversification of geographical provenance and skills. Guided by a reference lecturer, the groups proposed project approaches, visions and strategies.

The project *After the Damages* is organized by the Department of Architecture of the University of Ferrara, through the research center DIAPReM (Development of integrated automatic procedures for restoration of monuments), the research labs LaboRA (Architectural Restoration Laboratory) and LEM (Laboratory of Building Maintenance and Management and Environment) and the industrial research laboratory TekneHub (Technopole of the University of Ferrara). The training course, which is also sponsored by the Italian Union for Drawing, is organized with the University of Parma (Department of Engineering and Architecture) and the University of Modena and Reggio Emilia



Fig. 2. Some images from the project simulations developed by the participants for the final Workshop of the Summer School second edition. Photocredit After the Damages.

(Department of Engineering “Enzo Ferrari”). The cooperation of the Regional Agency for Reconstruction–Sisma 2012, the Authority for Archaeology, Fine Arts and Landscape for the metropolitan city of Bologna and the provinces of Modena, Reggio Emilia and Ferrara, and the Cultural Heritage Service of the Emilia-Romagna Region was essential for the overall project development. The project is funded by the Emilia-Romagna Region within the framework

of the Call for proposals for three-year advanced training projects in the cultural, economic and technological field, and is integrated in the Emilia-Romagna Smart Specialisation Strategy, implemented in cooperation with the High Technology Network, Clust-ER BUILD, and the Technopoles of Ferrara, Parma and Modena.

The collaboration has been further extended through the synergy with the Firespill Project, financed by the

cross-border program Interreg Italy-Croatia 2014-20, aimed at increasing the safety of the Adriatic basin area from natural and man-made disasters. The international Scientific Committee, in addition to the already involved experts from Italy, Morocco, Brazil, France, Ecuador, China, Armenia, Spain, Greece, Belgium, Germany, Denmark, Turkey, India and Slovenia, now includes the participation of Mexico and the United States.

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