

Events

The Third Edition of the International Summer School and Academy *After the Damages*

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Now in its third edition, the *After the Damages* Advanced Training Summer School project on risk management and the impacts on the existing built heritage resulting from natural or man-made disasters consolidates both the didactic results and the interest and participation of national and international partners in the Academy's activities.

The areas of investigation and comparison, also on an international scale, have concerned, among other things, the effects of climate change on the conservation of cultural heritage. This has been done starting from an interdisciplinary and integrated approach to the issues related to emergency management, safety, and reconstruction following catastrophic events of a different nature.

The Academy *After the Damages* is coordinated by the Department of Architecture of the University of Ferrara—through the Departmental Centre for the Development of Integrated Automatic Procedures for the Restoration of Monuments (DIAPReM), the Industrial Research Laboratory TekneHub of the Technopole of Ferrara, and the Laboratory for Architectural Restoration LaboRA, the Research Laboratory for Building Maintenance and Management and Environment LEM— and it is organized in partnership with the De-

partment of Engineering and Architecture of the University of Parma and the 'Enzo Ferrari' Department of Engineering of the University of Modena and Reggio Emilia.

The scientific committee, which is made up of representatives of Emilia-Romagna 2012 Earthquake Reconstruction Agency, the Ministry of Culture MiC, the Central Institute for the Digitization of Cultural Heritage, the Department of Civil Protection of the Presidency of the Council of Ministers, the Technopole Big Data and Clust-ER BUILD belonging to the High Technology Network of Emilia-Romagna, the General Directorate for Cultural Heritage Security of the Ministry of Culture, the Superintendency of Archaeology, Fine Arts and Landscape for the provinces of Parma and Piacenza, the Superintendency of Archaeology, Fine Arts and Landscape for the metropolitan city of Bologna and the provinces of Modena, Reggio Emilia and Ferrara, and other organizations, worked with the project's various actions, training and exchange, and in-depth analysis on specific topics, in the year 2022.

The Scientific Committee works in synergy with the International Faculty of scholars and experts from Armenia, Brazil, France, China, Ecuador, Mexico, Spain, Italy, Poland, Turkey, India Slove-

nia, and the Faroe Islands to update the strategic training areas.

Through Spring Focus, Talks, seminars, and an edition of the *After the Damages International Award*, the exchange and discussion activities amongst the network of partners and stakeholders that had already started in 2021 continued in 2022.

The first edition of the *After the Damages International Award 2021* results were presented and discussed on a study day in February. The winning and listed projects addressed the cross-disciplinary problem of resilient communities in smaller centers in addition to developing design and technology solutions devoted to special forms of cultural assets, such as places of worship in Italy and Nepal.

The areas of investigation related to risk management were addressed with reference to the development of protocols and good practices for the digital document in March as part of the Days of Restoration and Cultural Heritage organized in collaboration with the Department of Architecture of the University of Ferrara, the TekneHub Laboratory, the DIAPReM research center, Clust-ER BUILD, Futuro in Ricerca Consortium, and LABORa, Architectural Restoration Laboratory.

In April, specialists from CEPT University Ahmedabad, ICOMOS New Zea-



Fig. 1. Ten years after the 2012 Emilia-Romagna earthquake. After the Damages Summer School poster of the events organized on the tenth anniversary.

land National Scientific Committee on Energy and Sustainability and Climate Change (NCES+CC), Instituto Federal de Minas Gerais-Campus Ouro Preto, Brazil, and Faculdade de Arquitetura e Urbanismo, Universidade de São Paulo, ICOMOS Brazil and ICOMOS National Scientific Committee CIPA-HD Cultural Heritage Documentation discussed the new challenges posed by climate change to the conservation of Cultural Heritage.

The Summer School's third edition, which occurred from July 5 to July 19, 2022, built on the previous iteration's participation and outcomes by showcasing the topics' growing interest as well as the efficiency of the course's design and teaching. Since participants can access the teaching materials in the form of audio-video support even after individual seminars have concluded, the *After the Damages* Higher Education

project is proposed in the form of integrated synchronous and asynchronous distance learning after the pandemic event. To achieve the mentioned results, the didactics are carried out using exclusive digital platforms that enable the simultaneous participation of all participants, the recording of audiovisual content, and simultaneous translation into many languages, including English and Portuguese, for the 2022 edition.

The third edition involved 75 participants, professionals, researchers, scholars and public administration employees, experts in the disciplines of architecture, engineering, cultural heritage, archaeology, economics, humanities and 56 lecturers, from a total of 19 countries on 4 continents.

The 2022 edition of the Summer School lasted two weeks amounting to 104 hours divided as follows: 42 hours dedicated to lectures; 26 hours to seminars/workshops; 24 hours for individual work and the final workshop; 12 hours of virtual thematic visits of selected case studies.

Of the various topics covered in lectures and seminars, the central role played by the disciplines of representation, surveying, documentation, modeling and digital visualization, also integrated with key enabling technologies such as sensors, IoT and automation in both national and international contexts to support complex decision-making and intervention processes involving the architectural, urban and territorial scale and communities, is highlighted for the third edition as well.

The most noteworthy example of the use of integrated digital methodologies and technologies to recreate cultural heritage is the site of knowledge and digital documentation of Notre-Dame that professor Livio De Luca presented. Additionally, with reference to the

three editions of the Summer School, an integrated approach to intervention aimed at improving the technological and constructive fragility of artifacts as well as social fragility is a topic of interest for participants from various disciplinary, technical, and humanistic fields. The discussion and debate surrounding the sharing of exemplary case studies, also in reference to the scenario of war following the pandemic crisis, were other characteristics of the 2022 edition of the advanced training course.

The case studies of the Totsuka area in Tokyo, the cities of Cairo, Warsaw after the Second World War, Mosul in Iraq, Istanbul and Nepal enabled a thorough examination of the issue of resilience in relation to man-made catastrophic catastrophes.

A debate was also dedicated to case studies of the 2012 Emilia-Romagna crater area. The size of the damaged built heritage and cultural heritage made it necessary to reconsider the traditional protocols for surveying and quantifying damage, as well as the tools for integrating, sharing, and implementing information over time.

Finally, by means of virtual tours involving all the actors in the process, planners, public administrations, those responsible for the procedures and disbursement of funding, and territorial associations, the participants were able to explore the restoration sites of the town hall in Concordia near Modena, the Borgatti Theatre in Cento, places of worship in the crater area, and a school in Pieve di Cento.



Fig. 2. Some pictures of case studies of the 2012 Emilia-Romagna earthquake crater area analyzed during the course. Photocredit After the Damages.

The last workshop activity, which involved the 75 participants divided into 12 groups and directed by as many tutors among experts and lecturers of the third edition, marked the completion of the postgraduate training experience. The topics discussed and suggested by the participants included the use of methods and tools for risk analysis, mitigation, and management, tools and strategies to raise public awareness

of issues related to the effects of catastrophic events on the existing heritage, the opportunities, and limitations of applying particular technologies to improve the resilience of the built heritage, documentation, surveying, and digital mapping.

A whole dossier in the upcoming issue of the journal *Paesaggio Urbano* is devoted to the results of the instructional activities and the final workshop.

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