Events

EARTH2018 – International and Interdisciplinary Conference

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As one of the various events patronized by the *Unione Italiana per il Disegno* (UID), the International and Interdisciplinary Conference on Digital Environments for Education, Arts and Heritage (EARTH2018) was held on the 5th and 6th of July, 2018, at the Brixen campus of the Faculty of Education of the Free University of Bozen-Bolzano. The event, which was also patronized by the Ministry of Cultural Heritage and Activities (MIBAC), the Italian Society for Research on Medial Education (SIREM) and the Autonomous Province of Bozen-Bolzano, was organized by Alessandro Luigini with the contribution of other scholars who are members of the program committee.

In October 2017, again in Brixen, Alessandro Luigini, together with Chiara Panciroli (Department of Education Sciences, Alma Mater Studiorum, University of Bologna), had in fact already curated a first interdisciplinary meeting focused on research in the field of Digital Humanities. This first event, albeit of a lesser order and on a national level (a one-day Open Conference based on invitational lectures) was in some way the prelude to the intention of realizing a more articulated and broader initiative such as EARTH2018.

Internationality and interdisciplinarity can be considered, over and above more specific and specialized terms, the two key words on which the conference was based. As a consequence, it aimed to promote the encounter of different disciplinary areas of study (primarily representation, education and psychology) on the theme of digital environments, for investigating their mutual complementarity more deeply, namely to encourage a systematization of experiences based on divergent approaches from which a reciprocal stimulus could be drawn. In Luigini's own words, the aim was "to find a point of convergence between art history, digital representation, pedagogy, psychology and the economy of culture, in order to understand how our heritage can be, even more than before, an important element in the construction of a better society, also through the conscious use of immersive technologies" [1].

With these intentions, and therefore aspiring to intercept a wider response in terms of plurality of innovative experiments, points of view and methodological reflections on the subject, the conference's call for papers was structured to propose 14 topics. This diversified articulation of the topics demonstrated widespread awareness of how, in the current context, there are increasingly complex relationships between media and environments, in respect to which virtual museums, multimedia installations, interactive technological platforms, serious games and immersive realities are just a few of the possible forms of digital environment suitable for the adoption of innovative methods of heritage education. The response received obviously sustained the plurality of visions and voices on which the conference was based. More than 100 papers were received, 80 of which were selected for oral communication by more than 50 scholars involved in the role of referees, while the scientific committee counted the participation of 34 members.

The conference was organized into two working days in which different registers of communication were alternated. After the usual institutional greetings of Rector Paolo Lugli and Vice Dean Michael Gaidoschik, aimed at underlining how the objectives (of interdisciplinarity and internationality) of EARTH2018 are also those of the Free University of Bozen-Bolzano, the first day opened with the two important introductory speeches of Vito Cardone and Pier Giuseppe Rossi, respectively President of the UID and of SIREM. The first highlighted how the topic of the conference is "one of those border issues" that a scientific association like UID must absolutely cultivate. He then

Fig. 1. International and Interdisciplinary Conference #EARTH2018 – Digital Environments for Education, Arts and Heritage (from the event's website).

noted how the new, younger, smaller realities such as that of Brixen are the most favorable to "operate as avant-garde," and reiterated the importance of cultivating transversal, multidisciplinary and "transdisciplinary" relations, in an attempt to transcend the boundaries of the scientific-disciplinary sector and to understand the specificities and reasons of others. The second defined the event as an interesting "intricate and intriguing plot" in which the interweaving of different disciplinary paths can find fertile ground for sharing practices and processes of interpretation around the themes of media, education and digital technologies, contributing to the development of new interpretative keys useful for operating profitably in the current socio-cultural context.

The early afternoon was dedicated to a session of keynote speeches with several important guests: The Director-General of museums at MIBAC, Antonio Lampis, who underlined the extreme importance of the theme in relation to the objective of the creation of the national museum system; Eugene Ch'ng, Director of the NVIDIA Joint-Lab on Mixed Reality, University of Nottingham Ningbo China who, using a 360-degree video camera, showed various researches and projects of his laboratory focused on the combination of virtual reality and augmented reality (mixed reality) underlining how the sharing of cultural heritage can allow us to preserve roots, identity, social values and to transmit memory, knowledge and culture [2]; Stefano Mastrandrea (Department of Education, Roma Tre University), who presented a study on the relationships between the experience of visiting museums in different types of museums and the consequent educational aspects and benefits for the health of the visitor; Mona Hess (University of Bamberg – Germany) who presented the contents and objectives of the Master course in "Digital Technologies in Heritage Conservation" activated at her University since 2017.

Four parallel thematic sessions respectively entitled Visual Heritage, Communication, Digital Heritage and Education opened the works of the second half of the afternoon. The 23 contributions reported in these first sessions had already shown the variety of the panorama of research carried out, or currently in progress, focused on topics such as, for example, intermediality and the relationship between art and science (Gay, Cazzaro), transmediality (Moretti, Camillini), online

platforms (Caffio), videogames and learning (Feriozzi, Olivieri), applications for Universal Design (Yurdakul, Costa, M.Rossi, Buratti), digital archives (Palestini), automatic image recognition (Menendez Giglio, Todisco, Zerlenga), videomapping on 3D printed models for the interpretation of history (Fatta, Fischnaller), virtual museums (Cardaci, Versaci, Azzollo and Parrinello, Picchio, Dell'Amico), web apps for cultural itineraries (Vecchiattini, Battini), digital education (Poli, Zuccoli), educational innovation (Panciroli, Parricchi).

The second day proposed an intensive program consisting of seven parallel sessions distributed between morning and afternoon dedicated to seven variations of the theme of the conference: Augmented Reality, Digital Heritage, Museum Ideas, Immersive, Territory and maps, Archeology and Museum Life. The 47 scientific papers presented further confirmed the complexity and heterogeneity of the experiences as well as the different ways of approaching themes, such as, just to name a few: experiments with virtual tours in augmented reality (Brusaporci, Maiezza, Tata), immersive-interactive navigation at different scales (Meschini, Feriozzi), spatial augmented reality for children (D. Rossi), HBIM and museum digitalization (Lo Turco, Calvano), multimodal artifacts for cultural education (Dalai, Martini, Perondi), educational reflections for digital work (Cervellini), museum education and inclusive memory (Poce, Re), spaces, environments, places and communication models for the contemporary museum (Ippoliti, Guadagnoli, Casale), democratization of heritage (Valentin), social impact of museums (Viganò), psychology of perception and education through digital media (Peressini), simulation and immersive environments (Basso, Saracini

and Cirillo, Conte), multidimensional virtual reality (Fanini, Demetrescu), immersive experience of parks, sites and archaeological heritage (Empler, Agnello, Garofalo) digital tools for knowledge and modeling of the territory (Dutto, Dighero and Inzerillo, Roberts), social media (Villa).
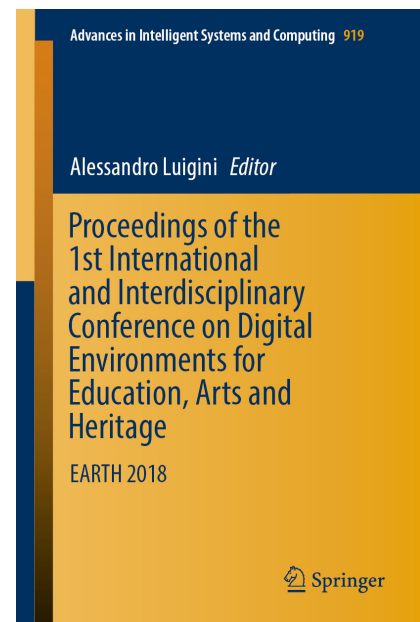
The different parallel sessions were interspersed by another moment dedicated to the lectures of several keynote speakers: Andrea Giordano (University of Padua) who, in presenting the inter-university and international research project "Visualizing Cities," showed how the development of appropriate interactive and interoperable digital models permits the communication and sharing of spatial-temporal knowledge on the transformations of historical cities, not only in architectural terms; Pier Giuseppe Rossi and Chiara Panciroli, who presented the objectives and meanings of the MOdE (Museo Officina dell'Educazione) project for the education and expression of users; Pierluigi Sacco (IULM of Milan) who, speaking of the work that the European Commission is doing in relation to cultural heritage, stressed the importance of the "New European Agenda for Culture" as a strategic document for the coming years; Franz Fischnaller (Albertina Academy of Fine Arts of Turin), who presented the design of the exhibit entitled "Virtual Journey through the History of Fort Saint Jean" (Marseille) as an example of transdisciplinary and multidisciplinary approach based on the combination of mixed digital environments.

The Scientific Committee, which followed and evaluated all the parallel sessions, conferred three Best Paper Awards. For the Senior section, to Fabrizio Gay and Irene Cazzaro (IUAV

University of Venice), for the intervention entitled "Venetian Perspective Boxes: When the Images Become Environments. Low-Tech, High-Knowledge Media for Teaching the Historical Heritage of the Interior/Exterior Environments"; for the Junior section, to Ramona Feriozzi and Alessandro Olivieri (University of Camerino) for the intervention "Video Games for Learning Projective Geometry: Analysis of Virtual Spaces through the Disciplines of Representation" and to Silvia Calegari and Matteo Dominoni (Bicocca University of Milan) for the intervention "The Pollicina Project. A Collaborative and Educational Social Suite to Build Cultural Itineraries."

As a whole, the papers presented documented a wide variety of top-

Fig. 2. Cover of the published Proceedings.

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ics addressed, high quality of research, fruitful cooperation between universities (including foreign ones) and with public institutions or productive activities, thus confirming how various scientific and cultural contexts are involved in the digital field, considered a support to the definition of new processes. The lively participation shown in the discussions after each presentation also confirmed a widespread and strong interest in wanting to investigate the lines of future development, thus expressing the transversal conviction of the significant contribution that research can afford to the offer and to the educational experience of art and heritage.

The Proceedings of the EARTH2018 Conference, which include the invitational lectures and all the peer-reviewed scientific papers presented, have been recently published in Volume 919 of "Advances in Intelligent Systems and Computing" by the prestigious international publisher Springer [3] and will be indexed in Scopus.

Notes

[1] <https://www.unibz.it/it/news/128935-earth2018-convegno-internazionale-sull-uso-dei-media-digitali-nell-educazione-all-arte> (accessed 2019, April 10).

[2] The 360° video of Eugene Ch'ng's Keynote Lecture is available at: <https://youtu.be/HXEC3MXXxBQ> (accessed 2019, April 10).

[3] <https://www.springer.com/it/book/9783030122393> (accessed 2019, April 10).

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