Preface

The main aim of the Tenth International Conference *Digital Presentation and Preservation of Cultural and Scientific Heritage (DiPP2020)* is to bring together as many interested institutions as possible working on digitising, recording, documenting, archiving, presenting, protecting and managing cultural and scientific heritage, so that they can share their advanced thoughts, know-how and experience. Public and specialised libraries, museums, galleries, archives, community centres, research institutions and universities are expected to share and acquire knowledge, skills, and expertise at the event.

Four types of papers are presented – invited papers, full papers, short papers, and project papers. The first three types discuss current scientific results, trends and achievements in the field of digital preservation and presentation of cultural and scientific heritage. The project papers present developments in progress, part of them experimental, made by memory institutions during their institutional projects.

- *Invited papers*

The paper by Nektarios Moumoutzis, Nikolaos Apostolos Rigas, Chara Xanthaki, Yiannis Maragkoudakis, Stavros Christodoulakis, Desislava Paneva-Marinova and Lilia Pavlova presents the Human Calculator – a theatrical game, based on the PerFECt Framework, which enables students to learn the binary representation of numbers and basic arithmetic operations.

The paper by Vladimir Alexiev, Plamen Tarkalanov, Nikola Georgiev and Lilia Pavlova proposes an Icon Knowledge Graph Model for integrating the Virtual Encyclopedia of Bulgarian Icons into Wikidata and the Europeana Data Model.

Dimitar Iliev's paper discusses the challenges in nowadays Classics education and exemplifies the digitally-aided research at the Department of Classics to the University of Sofia.

The paper by Dimitar Minev and Ivan Kratchanov gives an overview of the current efforts of National Library "Ivan Vazov" in Plovdiv in the field of digitization.

- *Full papers*

The paper by Alexander Iliev, Ameya Mote and Arjun Manoharan explores the use of MFCC feature vectors and a convolutional neural network to compare the differences in expressing emotions across languages.

The paper by Akash Apturkar, Alexander I. Iliev, Amruth Anand, Arush Oli, Swadesh Reddy Siddenki and Vikram Reddy Meka outlines a speech recognition system project for NLP and sentiment analysis of various languages.

The paper by Paola Branduini, Mattia Previtali, Marco Quaggiotto and Monica Resmini describes the construction of a cross-media map visualizing the changes in the agricultural landscape.

The paper by Desislava Paneva-Marinova, Lubomir Zlatkov, Lilia Pavlova, Detelin Luchev and Maxim Goynov focuses on tools for improved content observation and enhanced learning experience in virtual museum environment.

Joanna Spassova-Dikova's paper discusses virtual reconstructions and interactive multimedia solutions for performance arts in the digital era.

The paper by Zsolt László Márkus, Tibor Szkaliczki, György Szántó, Miklós Veres and Zsolt Weisz presents multimedia tools and services applied to preserve and present the scientific and societal heritage of the Hungarian polyhistor Roland Eötvös.

The paper by Evita Pilege, Sandra Plota and Girts Pilegis analyzes the impact of information technology on the development of creative industry and describes the Latvian Colleges of Culture project for the promotion of the competitiveness of the creative sector.

The paper by Magdelena Stoyanova, Diego C. Stoyanov and Lilia Pavlova discusses methods for the digital reconstruction of the hidden images of the Nicopeia icon.

The paper by Stefka Kovacheva and Ludmila Dimitrova describes the database "Bulgarian cultural and historical heritage under the protection of UNESCO" and its realization through web based application.

The paper by Ahlem Kebir, Sabrina Kacher and Daniel Meneveaux presents a workflow for creating a 3D virtual environment, dedicated to the architectural heritage education.

- *Short papers*

The paper by Rodica-Mariana Ion and Dan Adrian Vasile presents a virtual reconstruction scheme useful for subsequent restoration processes of the degraded versions of the murals from Matia Loggia, Corvins'Castle, Hunedoara, Romania.

The paper by Galina Bogdanova, Todor Todorov and Nikolay Noev proposes basic guidelines for better accessibility to web sites and digital cultural heritage web archives.

Orlin Kouzov's paper examines the use of "big data" processing technologies for preserving cultural and historical objects.

Daniela Pavlova's paper describes possible strategies for saving the cultural heritage and accelerated digitization of cultural artefacts with emphasis the opportunities posed by the pandemic crisis.

- *Project papers*

The paper by Mariya Monova-Zhelev, Yanislav Zhelev and Evgeniya Nikolova presents the main results from research conducted as part of the project DigiCult,

regarding the inclusion of museum professionals in the intangible cultural heritage digital presentation.

Rahaf Orabi's paper aims to examine the architectural development of the Al-Shuaybiyya Mosque in Aleppo, Syria using terrestrial laser scanning to identify the elements of the previous structures.

The paper by Maria Teresa Artese and Isabella Gagliardi describes the work on a novel method of creating a fully automated specific-domain Italian thesaurus.

The paper by Adarsh Appannagari, Manideep Chittineni, Sathvik Jetty, Zinnia Sarkar, Vinod Eslavath, Raj Ramachandran and Emmanuel Ogunshile discusses the development of Speech to Text applications in Tamil.

The paper by Maria Teresa Artese and Isabella Gagliardi describes an ongoing QueryLab based study, aiming to integrate different inventories to provide new and easy ways to query intangible cultural heritage data.

- *Workshops and Demos*

The Eleventh National Information Day: Open Science, Open Data, Open Access, Bulgarian Open Science Cloud, chaired by Peter Stanchev, Hristiyaniya Ancheva, Radoslav Pavlov and George Simeonov gives an overview the current landscape and the activities on national and institutional level regarding Open Science, Open Access to scientific information, Open Data and the overall development of the Bulgarian Open Science Cloud.

The workshop on *Virtual Museums and Their Educational Applications,* chaired by Radoslav Pavlov, Desislava Paneva-Marinova, Detelin Luchev and Jordan Stoikov, presents outcomes of the National Scientific Program "Cultural and Historical Heritage, National Memory and Social Development", funded by the Ministry of Education and Science, and outlines some future trends for educational applications of virtual museums.

Burgas, Bulgaria
September 24, 2020

Desislava Paneva-Marinova,
Radoslav Pavlov, Peter Stanchev
Detelin Luchev (Editors)

**The Assistant Director-General
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Dear Secretary-General,

On behalf of the Director-General, I wish to thank you for your letter of 14 January 2020, in which you conveyed to us a request for UNESCO's patronage for the tenth international conference on Digital Presentation and Preservation of Cultural and Scientific Heritage that will take place from 24 to 26 September 2020, in Burgas, Bulgaria.

By promoting open access to digitized heritage, as well as fostering sustainable policies for digital preservation and conservation, this initiative is in line with UNESCO's mission, for which I congratulate you. I am confident that the conference will stimulate discussions on the preservation of cultural and scientific heritage through innovative technologies, as well as on open science, and will complement UNESCO's work in this area.

Therefore, I am delighted to inform you that the Director-General has decided to grant UNESCO's patronage to this event. As such and in accordance with the General Conditions enclosed herewith, you may use the Organization's logo for the tenth international conference on Digital Presentation and Preservation of Cultural and Scientific Heritage.

Wishing the organizers every success for this event, I remain,

Yours sincerely,

Firmin Edouard Matoko

Enc.: 1
Cc: Permanent Delegation of the Republic of Bulgaria to UNESCO