DigitalHERITAGE 2018

New Realities: Authenticity & Automation in the Digital Age

3rd International Congress & Expo
26-30 October 2018, San Francisco, USA

5 days, 18 federating events, 100s of talks, 3 amazing venues, 50,000 sqft expo, 10 tours

WHAT
The leading global event on digital technology for documenting, conserving and sharing heritage—from monuments & sites, to museums & collections, libraries & archives, and intangible traditions & languages. Featuring keynotes from cultural leaders & digital pioneers, a tech expo, research demos, scientific papers, policy panels, best practice case studies, hands-on workshops, plus tours of technology and heritage labs.

FOCUS
Culture and technology fields from computer science to cultural preservation, archaeology to art, architecture to archiving, museums to musicology, history to humanities, computer games to computer graphics, digital surveying to social science, libraries to language, and many more.

WHO
Some 750+ leaders from across the 4 heritage domains together with industry to explore, discuss & debate the potentials and pitfalls of digital for culture. Heritage and digital professionals, from educators to technologists, researchers to policy makers, executives to curators, archivists to scientists, and more.

WHERE
For the first time outside Europe following the 1st Congress in Marseille in 2013 and 2nd in Granada in 2015, our 2018 event will be in the heart of the digital revolution on the waterfront in San Francisco, with special activities at the De Young Museum and aboard the historic Liberty ship SS Jeremiah O’Brien.

WHEN
26-30 October 2018

Workshop, Tutorials & Special Session Proposals Due online: 15 April 2018
Papers & Expo Proposals Due online: 20 May 2018
Notification: 15 July 2018   Camera Ready Deadline: 1 September 2018
A federated Congress of many leading events, DigitalHERITAGE 2018 includes:

2 Conferences
The Int’l Society on Virtual Systems and Multimedia

**VSMM 2018** – 24th International Conference
The Pacific Neighborhood Consortium

**PNC 2018** – 25th Conference & Joint Meetings

1 Exposition
ARCHAEOVIRTUAL & Italian National Research Council

DigitalHERITAGE Expo & Livestream from Paestum, Italy

15+ Special Events

Computer Applications & Quantitative Methods in Archaeology

CAA Special Symposium

The Int’l Council on Monuments & Sites/Int’l Society for Photogrammetry & Remote Sensing

ICOMOS/ISPRS CIPA Special Session

Int’l Conference on Remote Sensing in Archaeology

**Space2Place 2018** Workshop on Remote Sensing in Archaeology

iCOMOS Int’l Scientific Committee for Interpretation & Presentation of Cultural Heritage (ICIP)

**ICOMOS ICIP** Session on Technology for Interpretation: Challenges & Potential

**ICOMOS ICIP** Workshop on Evolving Technologies for Interpretation

**ICOMOS ICIP** Session on Digital for Archaeological Collections

Association of Canadian Archivists

ACA Special Session on Archives

California State Parks

CalParks Special Session on 3D Digital Preservation & Best Practices

Rijksmuseum

**2+3D Photography** Special Session

Centre for Architecture, Urbanism & Global Heritage, Nottingham Trent Univ. & Middle East Virtual Heritage Network

**5D Virtual Heritage of Medieval Culture** Special Session

EU E-RIHS Project and Dr. Luca Pezzati & Dr. Sofia Pescarin, Italian National Research Council

**E-RIHS Project**: Panel on Infrastructure for Heritage Sciences

EU ARIADNE Project & Community

**ARIADNE** Session: Is Your Archaeological Data FAIR Enough?

EU PARTHENOS Project, with the Research Data Alliance, Science Europe, and more

**PARTHENOS** Roundtable: “FAIR” Research Data Openness: Policies & Strategies

EU REVEAL Project and Italian National Research Council ITABC & ITD

**REVEAL** Videogames & Multimedia: New Challenges for Museums, Schools & Tourism

Sheffield Hallam Univ. & EU MeSch Project

**Tangible & Embodied Experiences** Special Session

DigitalHERITAGE 2018 runs 5 days and explores digital innovation and challenges across 4 heritage domains:

*Built Heritage, Artifacts & Collections, Libraries & Archives, Intangible Culture & Traditions*

and across 3 broad groups of digital technology:

*Reality Capture* (digitization, scanning, remote sensing, ...)

*Reality Computing* (databases & repositories, KM, GIS, CAD, 3DCG, authoring, archives, ...)

*Reality Creation* (VR, AR, MR, games, visualization, multimedia, 3D printing, embodiment, ...)
CALL FOR PROPOSALS (Papers, Exhibits, Workshops, Tutorials, Panels)

You are invited to submit proposals for the congress. We are accepting proposals for:
- Papers (Full papers as well as short papers, case studies and posters)
- Exhibits
- Workshops, Tutorials, Panels/Roundtables and special sessions

We solicit submissions on a broad range of themes and topics, including but not limited to:

**Reality Capture track**
Digital Documentation & Input
- Photogrammetry, image-based modeling, SFM
- 2D scanning & document digitization
- 3D scanning (laser, structured light, moccap, etc)
- mobile and indoor scanning and sensing
- remote monitoring technologies
- GPR & magnetometry
- Remote sensing and aerial lidar
- GNSS (GPS, GLONASS, Galileo)
- Low-cost & gaming 3D input
- Gigapixel, ultra-high res & HDR photography
- Terahertz, Infrared, UV & X-ray imaging
- Advanced sensors research

**Visualization and Interaction track**
Digital Presentation & Output
- Immersive and Active/Passive stereodisplays
- Real + virtual worlds (mixed/augmented reality)
- Virtualization of senses (touch, taste, smell, sound)
- Haptic & Multimodal interaction
- Distributed VR
- Local/remote rendering
- Innovative interaction systems
- Storytelling and design of heritage communications
- Usability, effectiveness and interface design
- Visual simulation of materials
- Emerging visualization technologies
- Rapid prototyping, 3d printing & reproduction

**Analysis and Interpretation track**
Digital Content Management & Analysis
- Historic Document Analysis
- Remote Sensing Analysis (incl aerial image proc.)
- Finite element, structural and other analyses
- 3D modeling (CAD-based and reality-based)
- Building Information Modeling (BIM)
- Virtual Reconstruction Issues
- Realism and Interpretation in CH
- 3D, multimedia and GIS repositories, platforms, & info systems
- Digital Curation
- Virtual GIS and Mapping tools
- Emerging technologies

**Policy and standards track**
Digital Heritage Policy & Societal Issues
- Metadata Handling & Management
- Digital Rights
- Heritage Commons
- Cultural Analytics
- Heritage at Risk
- Heritage Consortia
- E-libraries
- Digital Humanities
- Born digital content issues

**Preservation track**
Digital Preservation & Standards
- Metadata, standards, ontologies in Heritage
- Requirements and policies
- Trusted digital repositories / OAIS
- Institutional Repositories, digital libraries
- Semantic Web and processing in CH
- Long term storage and persistence
- authentication, accreditation and DRM
- Data formats and compression for preservation
- Watermarking, orphan works, copyrights & IPR

**Theory, methodologies & applications of Digital Heritage track**
Digital Heritage Solutions & Best Practices
- Integrated solutions and best practices in:
  - Virtual documentation
  - Virtual conservation & restoration
  - Virtual archaeology
  - Virtual museums & exhibitions
  - Serious Games for heritage
  - Collaborative environments
  - Internet technologies and social media
  - 3D sensing
Online submission will open March 25th at easychair.org. The link will be available on the congress website. Tutorials, Workshops, & Special Session proposals due April 15th. Papers and Exhibit proposals are due May 20th. Papers will be able to be submitted to DigitalHERITAGE as a whole, as well as to many of the federating events including PNC2018. Conference Proceedings to be published with IEEE and Expo Proceedings with Elsevier open access.

All submissions will be handled digitally and must use IEEE Xplore format. More information will be coming soon on the congress website at http://www.digitalheritage2018.org and on the websites of our many partners.

Best wishes,
DigitalHERITAGE 2018 Organizing Committee
Email: info@digitalheritage2018.org

2018 EXHIBITION CALL

The 2018 Expo is expected to be the largest exhibition on digital heritage ever organized. Encompassing more than 50,000 sq ft of space, the exhibition will be divided into 5 categories: 1) built & archaeological heritage; 2) intangible heritage & traditions; 3) libraries and archives; 4) museum collections; and 5) art and creativity.

The Expo will be hosted in a historic pier in the middle of the San Francisco waterfront and be open to the public. Selected by a Program Committee composed of Arts, Heritage and Information and Communication Technologies experts, the best submissions will be selected for display. They will not only be accessible to the hundreds of participants of the 2018 DigitalHERITAGE International Congress, but also to thousands of public in the closing days.

Visitors of this exhibition will travel through time and space, reaching diverse countries from around the world, covering a historical time-span of thousands years; the exhibitions will allow the public to explore archaeological sites and monuments, get immersed in musical environments and enter virtual artworks, listen to stories from our past, interact with a wide range of digital heritage and science applications using hands, bodies, heads, brains, and finally to connect “digital” with “heritage” and to see how creativity takes one to new future perspectives.

Organised by: Supported by:
2018 DigitalHERITAGE Expo Proposal Form

I'd like to propose a project to showcase in the 2018 DigitalHERITAGE Expo

[TITLE OF THE PROJECT]

Proposer’s name: [Prefix, First Name, SURNAME]
Proposer’s position: [POSITION]
at [INSTITUTION/COMPANY
ADDRESS, CITY, COUNTRY, WEB SITE URL]

Proposer’s contact info: [EMAIL, TEL, WEBSITE URL]

Category of proposed project:
[ ] Built Heritage & Archaeology
[ ] Museums & Collections
[ ] Intangible Heritage & Traditions
[ ] Libraries & Archives
[ ] Art & Creativity

Project Author(s):
[First name], [SURNAME], [email]
[First name], [SURNAME], [email]

Institutions involved are:
[Name of Institution], [Address], [website]
[Name of Institution], [Address], [website]

The authors of the applications have all the rights to present the project in a public exhibition.

__________________________
Place, date

__________________________
Signature
DigitalHERITAGE 2018 Expo Proposal Details Form

| TITLE of the project |  |
| ABSTRACT | Short description for publication (5000 char. max) |
| CONTENT | Briefly describe the content of your exhibit (1000 char. max) |
| SPACE | (how much floor space does your exhibit need (eg. 1m x 2m)) |
| REQUIREMENTS | List any equipment/lightning/support/other needs for presenting your project |
| NOVELTY | This project was developed for: [ ] Research Purposes [ ] Public Dissemination Has it been publicly shown before? [ ] No [ ] Yes - if so, date first shown (dd/mm/yy): __________ |
| INNOVATION | Briefly list how your project is innovative (1000 char. max.) |
| HERITAGE THEME | (check any themes project applies to) [ ] Built Heritage & Archaeology [ ] Museums & Collections [ ] Libraries & Archives [ ] Intangible Heritage [ ] Art, Creativity, Other |
| HERITAGE DETAILS | Detail the heritage content your project is focused on (1000 char max) |
| CONGRESS TRACK | (check any tracks project applies to) [ ] Reality Capture [ ] Visualization/Interaction [ ] Analysis/Interpretation [ ] Policy/Standards [ ] Preservation [ ] Theory/Methodology |
| AUDIO | Audio content included [ ] No [ ] Yes If yes, is it [ ] Music [ ] Voice If voice, which language(s): __________________________ |
| TARGET USER | Describe who your main audience is |
| ACCESSIBILITY | Describe where the application is accessed (2000 char max) |
| TECHNOLOGY | Describe the interaction/visualization technology used (2000 char max) |
| ARCHIVED | Are your assets archived? Where/how |
SPECIAL SESSION CALLS

Session title: Are your archaeological data FAIR enough?
Organized by the ARIADNE project and community
Chairs: Franco Niccolucci and Sorin Hermon

The data related FAIR (Findable-Accessible-Interoperable-Reusable) acronym has become a buzzword in the digital archaeological community. Pushed by EU funders as a requirement, and by social pressure to open the data vaults, FAIRness may risk having counter-effects by making available a mass of data without knowing what to do with them and how they may contribute to the progress of archaeological knowledge.

The session will explore innovative methodologies coupled with examples of good practices as regards:

- **Findability**: which tools are available to find what one is looking for, beyond googling for it? Google provides artificial intelligence in searching, is this applicable in archaeology, where financial resources are much scarcer than those available for business? What can we look for and what can we expect to find when searching for archaeological data?
- **Accessibility**: what implies accessing research data? Is there an academic requirement and consequent reward for researchers making their data accessible for the scientific community? How is this perceived and accepted in the archaeological community? How we can protect legitimate rights of exploiting one’s work, without keeping results concealed? What is the difference between accessibility and integration? In what do human accessibility and machine accessibility differ?
- **Interoperability**: what is required to be able to use data from different sources without enforcing rules potentially appearing as a limitation to the freedom of scientific research? Are standards a free choice or a compulsory restriction? Which are the pros and cons of their adoption? Are there affordable tools data integration?
- **Reuse**: which kind of innovation should appear in the archaeological method and approach to improve the reuse of research results? Will FAI support Reuse by professionals and citizens? Which new horizons are opened by data FAIRness as concerns citizens’ inclusion and engagement in Cultural Heritage? How can we cope with propagation of IPR across the FAIR stages? How is innovation related to re-use and how can research benefit from the exploitation of scientific data?

Proposed lectures should address one or more of the above themes in a broad sense. Thus, relevant topics include, but are not limited to, the following:

- The cloud approach and cultural heritage research;
- Virtual Research Environments for archaeology and cultural heritage;
- e-infrastructures for cultural heritage;
- 3D modelling of physical artefacts, sites of monuments;
- Data mining of primary and secondary sources (texts, audio, image, videos);
- Interoperability issues across heterogeneous sources;
- Scientific visualisation and Interface techniques;
- Creation and handling of narratives, representational and interpretive practices;
- Virtual reconstructions, AR/VR, immersive systems for research and public archaeology;
- Management of geo-temporal information;
- Ontology modelling and semantics, especially in the CH field;
- Handling of born-digital and/or digitised artefacts;
- Network analysis methods (social networks of all sorts);
- CH and social inclusion through technology;
- Distributed knowledge production and enrichments, crowd-sourcing.

The session will be concluded by a round table on “Research Data Openness with a FAIR approach: policies and strategies in Europe and the Americas”, organized by the PARTHENOS project in collaboration with the Research Data Alliance, ScienceEurope and other related initiatives.
SPECIAL SESSION CALLS

Tangible and embodied experiences with heritage
Dr Daniela Petrelli, Prof. of Interaction Design, Art & Design Research Centre, Sheffield Hallam University, UK

Abstract: A core problem underlying all digital artefacts is the loss of materiality: museums have since long recognized the importance of a physical contact between visitors and objects as the ever-popular handling sessions show. Internet of Things technology makes it possible now to build smart objects and spaces that react to visitors providing experiences that take the visitors beyond interactive screens and into an emotional engagement with the heritage. Embedded technology enable to take the attention back to the heritage as opposed to capture it onto screens. Indeed when such tangible and embodied interactions are offered to visitors the response is enthusiastic for the novel, immersive experience they offer. Sensors embedded in smart replicas, soundscapes that react to visitors’ movements, bespoke devices for the physical interaction with the exhibition or the heritage site are all examples of new ways of engaging visitors with digital content and digital storytelling via tangible and embodied means. In addition, technology in the physical space can bridge the gap between the physical and the digital collection. This track will bring together researchers in computing and interaction design with museum professionals interested in exploring the potential of new methods of engaging visitors that are led by the physical experience of being there.

SPECIAL SESSION CALLS

3D Digital Preservation and Establishing Best Practices in California State Parks
California State Parks (CSP) diverse cultural and natural resource quality control of Big Digital Data Repository requires multiple professional disciplines to interact with the same information. Over the last several years, CSP transformed its organizational structure to include efficient methods for Resource Management. This new transformational base structure is a one-stop location for CSP resources accessed both digitally and visually by park staff and stakeholders.

CSP 3D Digital Preservation Best Practices gathers the resource quality control specifications and includes training for their management and is a result of a CSP transformation. The challenge over the years for CSP is acquiring 3D Licensed Surveys for their many state owned properties and where to locate this Big Data resource after collection and processing. The priority monitoring of the first park sites in a 3D digitized format for Historic Preservation are multiple to date, and CSP foresees this practice to grow rapidly. Technology is more accessible and Best Practice Standards in place create efficient collection and archiving which allows many more parks sites to undergo this archival process. The findings over time and the use of this new 3D Digitalization technology included CyArk’s partnership with Parks as a starting point, and the laser scanning and processing of several California State Historic Parks (SHP): John London, Sonoma Mission, and Chumash Painted Cave. This collection of 3D Digital Data lead to CSP’s implementing their Acquisition Licensed Surveyors into the formal practice of 3D Licensed Surveys. Among those first parks were Bodie SHP, Hearst Castle SHP, Sutter’s Fort SHP, Railtown 1897, Duncan’ Landing, Governor’s Mansion, South Yuba Covered Bridge, the Hearthstone at Humboldt Redwoods State Park (SP), and the Blue Wing in at Sonoma SHP. The next phase for CSP is to incorporate multiple layers into these base 3D digital documents, including GIS, BIM, Emergency Planning, Maintenance and Stakeholder viewing tools to locate this Big Data Repository within a network solution and accessed with larger scale Virtual Reality solution for team collaboration and educational outreach.
COMMITTEE

Leadership

Prof. Alonzo C. Addison, President, VSMM Society
Prof. Francesco Bandarin, Assistant Director General for Culture, United Nations Educational, Scientific & Cultural Organization
Prof. Gilberto Corbellini, Director, Dept of Social Sciences, Humanities & Cultural Heritage, Italian Nat'l Research Council
Dr. Leslie Hartzell, Cultural Resources Division Chief, California State Parks
Mr. Max Hollein, CEO & Director, Fine Arts Museums of San Francisco
Dr. Pascal Lieuxau, Chief of Research & Scientific Policy, Directorate of Heritage, French Ministry of Culture & Communications

Federated Event Chairs

VSM 2018 Conference – Alonzo Addison & Harold Thwaites
PNC 2018 Conference & Meetings – Ling-Jyh Chen
ARCHAEOV/VIRTUAL2018 (via livestream connection to Paestum Italy) Expo – Sofia Pescarin
Space2Place Symposium – Maurizio Forte & Stefano Campana
CAA Symposium – Lisa Fischer & Heather Richards-Rissetto
Assoc of Canadian Archivists Session – Luciana Durante
ICOMOS CIPA Special Session – Andreas Georgeopolous, Mario Santanta, Fabio Remondino
ICOMOS ICIP Special Session – Sue Hodges & John Jameson
SEAV Arqueologica 2.0 – Victor Lopez-Menchero

Special Track Chairs

Middle East Virtual Heritage – Gamal Abdelmonem
Tangible & Embodied Experiences – Daniela Petrelli
2+3D Photography – Cecile van der Harten
E-RIHS Panel on Infrastructure for Heritage Sciences – Luca Pezzati & Sofia Pescarin
ARIADNE Panel on Archaeological Data – Franco Niccolucci & Sorin Hermon
PARTHENOS Roundtable on Research Data Openness – Franco Niccolucci & Sorin Hermon
REVEAL Session on Videogames & Multimedia – Sofia Pescarin & CNR ITABC & CNR ITD

Program Committee

Dr. Gamal Abdelmonem, Chair Middle East Virtual Heritage Network, Professor, Nottingham Trent Univ., UK
Dr. Stefano Campana, Co-Chair Space2Place Symposia & Prof. of History & Cultural Heritage, Univ. of Sienna, Italy
Dr. Eugene Ch'ng, Dir., NVIDIA Media Lab, Prof. Nottingham Ningbo Univ., China
Dr. Erik Champion, Prof. & UNESCO Chair in Cultural Heritage & Visualization, Curtin University, Australia
Dr. Ling-Jyh Chen, CEO, Pacific Neighborhood Consortium, Academia Sinica
Dr. Luciana Durante, President, Assoc. of Canadian Archivists & Prof., Archival Studies, Univ. of British Columbia, Canada
Dr. Maria Economou, Sr. Lecturer in Museum Studies & Curator, School of Humanities & Hunterian Museum, Univ. of Glasgow
Mr. Human Esmaeili, 3D Visualization & Multimedia Research, Centre for Research-Creation in Digital Media (CReDM), Sunway Univ., Malaysia
Dr. Steven Fai, Director, Immersive Media Studio & Assoc. Prof. Carleton Univ., Canada
Dr. Mohamed Farouk, Director, Center for Documentation of Cultural and Natural Heritage (CULTNAT), Bibliotheca Alexandrina, Egypt
Ms. Lisa Fischer, Chair, CAA North America & Director, Digital Initiatives, Jamestown Rediscovery Foundation, USA
Prof. Franz Fischmaller, Albertina Academy of Fine Arts, Milan, Italy
Dr. Maurizio Forte, Co-Chair, Space2Place Symposia & Prof. of Classical Studies, Duke Univ., USA
Dr. Bernie Frischer, Prof. of Informatics, Indiana Univ., USA
Dr. Marco Gaiani, Prof. of Architecture, Univ. of Bologna, Italy
Dr. Andreas Georgeopolous, President, ICOMOS CIPA, and Prof. of Photogrammetry, National Technical Univ. of Athens, Greece
Dr. Lizbeth Goodman, VP, VSMM Society & Prof., Univ. College Dublin, Ireland
Dr. Halina Gottlieb, Director, Digital Heritage Center Sweden, NODEM and Coordinator of Knowledge Triangle Program at Nordic Council of Ministers
Dr. Gabriele Guidi, VP, VSMM Society & Prof., Polytechnic of Milan, Italy
Dr. Susan Hazan, Curator of New Media, The Israel Museum, Israel
Dr. Heather Richards-Rissetto, Asst. Prof. Anthropology & Faculty Fellow, Ctr for Digital Res. in the Humanities, Univ. of Nebraska-Lincoln, USA
Dr. Maria Roussou, Asst. Prof., Dept of Informatics & Telecommunications, National and Kapodistrian Univ. of Athens, Greece
Dr. Sorin Hermon, Assoc Prof., Digital Cultural Heritage, The Cyprus Institute, Cyprus
Ms. Sue Hodges, President, ICOMOS Int'l Scientific Committee for Interpretation & Presentation of Cultural Heritage Sites (ICIP)
Dr. John Jameson, Vice President, ICOMOS ICIP and US National Park Service (Ret.), USA
Advisory Committee

Dave Alpert, CEO, Geopogo Corp.
Dr. Michael Ashley, President, Codifi, Inc.
Gene Cooper, CEO, GIGAmacro Corp.
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Tatjana Dzambazova, Evangelist, Autodesk Corp.
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Damon Hernandez, Samsung NEXT Labs
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Matt Lasher, Executive Director, SS Jeremiah O'Brien National Liberty Ship Memorial
Mark Lindeman, CEO, Picturae Corp.
Dr. Jacki Morie, Vice President, Education, UPLOAD VR LLC
Tricia Robson, Director of Digital Strategy, Fine Arts Museums of San Francisco
Thomas Rydell, CEO, Interspectral Corp.
Peter Samis, Assoc. Curator, Interpretation, San Francisco Museum of Modern Art
Aaron Selverston, CEO, Owlized Corp.
Peter Siegel, Owner, Digital Transitions - Division of Cultural Heritage
Don Williams, CEO, Image Science Associates

Organizing Committee

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Sofia Pescarin, Digital Heritage Expo
Gabriele Guidi, Reality Capture Track
Sorin Hermon, Theory & Methodology Track
Franco Niccolucci, Digital Preservation & Standards Track
Nicola Lercari, Workshops
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