

CIPA VILA 2019

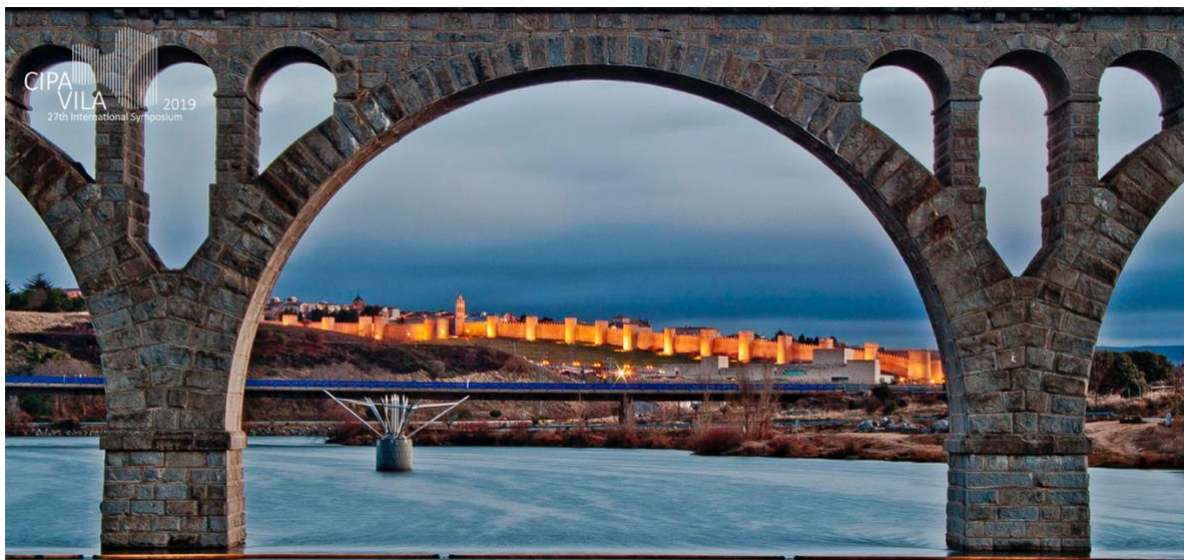
27th International Symposium

1-5 SEPTEMBER 2019

Conferences and exhibitions center
“Lienzo Norte”
Avenida de Madrid 102

AVILA, SPAIN

Preliminary Program – v. 20.08.2019



SUNDAY, 1st SEPTEMBER

TUTORIALS

- Higher Polytechnic School of Avila, Hornos Caleros 50, Avila -

	<i>Room A1</i>	<i>Room A2</i>	<i>Room A3</i>
9:00 - 13:00	PetroBIM: a new tool for the restoration, conservation & management of cultural heritage <i>(Alberto Armisen Fernández - PetroBIM)</i>	Human-centered virtual, augmented and mixed reality <i>(Arzu Çoltekin - University of Zurich and Uni. Appl. Sci. & Arts Northwestern, Switzerland)</i>	Photography for 3D modelling of cultural heritage <i>(Geert Verhoeven - Ludwig Boltzmann Institute, Austria)</i>
LUNCH BREAK			
	<i>Room A1</i>	<i>Room A2</i>	
14:00 - 18:00	Underwater photogrammetry applied to Cultural Heritage <i>(Dimitrios Skarlatos - Cyprus University of Technology, Cyprus & Panagiotis Agrafiotis - Cyprus University of Technology, Cyprus and National Technical University of Athens, Greece)</i>	Structural analysis of historical construction by means of the Finite Element Method <i>(Luis Javier Sánchez Aparicio - University of Salamanca, Spain & Borja Conde Carnero - University of Vigo, Spain)</i>	

CIPA VILA 2019 27th International Symposium Documenting the past for a better future

PetroBIM

MONDAY, 2nd SEPTEMBER

OVERVIEW of DAY 1

09:00-10:30	OPENING, KEYNOTE, SPONSOR PRESENTATION		
10:30-11:00	COFFEE BREAK		
11:00-12:30	<i>Room Plenary</i>	<i>Room Exhibition</i>	<i>Room Multipurpose</i>
	TS1 - Artificial Intelligence in Heritage I	TS2 - Heritage 3D Doc & Modeling I	TS3 – Virtual Museums
12:30-13:30	LUNCH BREAK		
13:30-14:30	DEMO SESSION – Exhibition room		
14:30-16:00	<i>Room Plenary</i>	<i>Room Exhibition</i>	<i>Room Multipurpose</i>
	TS4 - Underwater Heritage Documentation	TS5 - HBIM I	TS6 - Restoration, Rehabilitation & Conservation
16:00-16:30	COFFEE BREAK		
16:30-17:30	<i>Room Plenary</i>	<i>Room Exhibition</i>	<i>Room Multipurpose</i>
	TS 7 - Point Cloud Processing I	TS8 - Citizens Participation in CH	TS9 - Sustainable Development in Cultural Heritage
18:30-20:00	WELCOME PARTY		

2 Sept.

09:00 - 10:30 **PLENARY – Opening, Keynote and Sponsor Presentation**

10:30

Room: Plenary

- Opening session:

Diego Gonzalez Aguilera, Fabio Remondino

- Keynote Speaker:

Geert Verhoeven (Ludwig Boltzmann Institute, Austria):

THE 3D DATAFICATION OF CULTURAL HERITAGE: MORE THAN JUST A FLASH IN THE PAN?

Sponsors presentation:

Smart heritage city - Joaquin Garcia (Fundacion Santa Maria La Real)

10:30 – 11:00 Coffee Break

2 Sept.

11:00 - 12:30 **TS1 - Artificial Intelligence in Heritage I**

12:30 Chairman: Fabio Remondino

Room: Plenary

CONDITION ASSESSMENT OF RC BRIDGES. INTEGRATING MACHINE LEARNING, PHOTOGRAMMETRY AND BIM

Borin, Paolo; Cavazzini, Francesco



MULTI-TASK DEEP LEARNING WITH INCOMPLETE TRAINING SAMPLES FOR THE IMAGE-BASED PREDICTION OF VARIABLES DESCRIBING SILK FABRICS

Dorozynski, Mareike; Clermont, Dominic; Rottensteiner, Franz

DEEP LEARNING FOR SEMANTIC SEGMENTATION OF 3D POINT CLOUD

Malinverni, Eva Savina; Pierdicca, Roberto; Paolanti, Marina; Martini, Massimo; Morbidoni, C.; Matrone, Francesca; Lingua, Andrea

AUTOMATIC DAMAGE DETECTION OF STONE CULTURAL PROPERTY BASED ON DEEP LEARNING ALGORITHM

Kwon, Dohyung; Yu, Joengmin

ARCHITECTURE RECOGNITION BY MEANS OF CONVOLUTIONAL NEURAL NETWORKS

Andrianaivo, Louis; D'Autilia, Roberto; Palma, Valerio

2 Sept.

11:00 **TS2 - Heritage 3D Documentation and Modeling I**

12:30 **Chairman: Andreas Georgopoulos**

Room: Exhibition

3D INDOOR DOCUMENTATION OF THE WINTER GARDEN IN THE EARTHENWARE MUSEUM AT SARREGUEMINES (FRANCE)

Girardet, Valentin; Grussenmeyer, Pierre; Reis, Olivier; Kieffer, Julie; Guillemain, Samuel; Moisan, Emmanuel

CATHEDRAL NOTRE DAME IN PARIS – THE INSCRIPTION OF THE SOUTH TRANSEPT'S FAÇADE: MEDIEVAL RELICT OR 19TH CENTURY RECREATION?

Tenschert, Ruth

FROM REALITY TO PARAMETRIC MODELS OF CULTURAL HERITAGE ASSETS FOR HBIM

Diara, Filippo; Rinaudo, Fulvio

EXPLOITING 3D MULTISPECTRAL TEXTURE FOR A BETTER FEATURE IDENTIFICATION FOR CULTURAL HERITAGE

Mathys, Aurore; Jadinon, Rémy; Hallot, P.

A DIGITAL DIAGNOSIS FOR THE « AUTUMN » STATUE (MARSEILLE, FRANCE): PHOTOGRAMMETRY, DIGITAL CARTOGRAPHY AND CONSTRUCTION OF A THESAURUS

Roussel, Roxane; Bagnéris, Marine; De Luca, Livio; Bromblet, Philippe



2 Sept.

11:00 TS3 - Virtual Museums**12:30 Chairman: Pierre Hallot****Room: Multipurpose**

VIRTUAL MUSEUMS – THE FUTURE OF HISTORICAL MONUMENTS DOCUMENTATION AND VISUALIZATION

Pavelka, Karel; Raeva, Paulina

VIRTUAL MUSEUMS AS A MEANS OF PROMOTION AND ENHANCEMENT OF CULTURAL HERITAGE

Aiello, Damiano; Fai, S.; Santagati, Cettina

PERSONALIZATION ENVISAGED IN MUSEUM APPLICATION GUIDES AND THEIR IMPLICATIONS: UNDERSTANDING THE CONTEXTUALIZATION OF THE VIRTUAL MUSEUM WITHIN THE MUSEUMS OF KOREA

Shim, HyeSeung; Jun, Ji Young; Ahn, Jaehong

VIRTUAL RECONSTRUCTION OF THE BIRTHPLACE OF REMBRANDT VAN RIJN: FROM HISTORICAL RESEARCH OVER 3D MODELLING TOWARDS VIRTUAL PRESENTATION

De Vos, Pieter-Jan; De Rijk, M.

EXPERIENCING THE INACCESSIBLE. A FRAMEWORK FOR VIRTUAL INTERPRETATION AND VISUALIZATION OF REMOTE, RISKY OR RESTRICTED ACCESS HERITAGE PLACES

Trizio, Ilaria; Brusaporci, Stefano; Luigini, Alessandro; Ruggieri, Andrea; Basso, Alessandro; Maiezza, Pamela; Tata, Alessandra; Giannangeli, Alessandro

12:30 – 13:30 Lunch Break**13:30 -14:30 Demo Session – Exhibition room**

LIBNOVA

LIBSAFE, the most technologically advanced digital preservation platform

PANATEC

Hirox Microscope - Real Time Museum Restoration

IMARECULTURE Project

Dry visits for underwater cultural heritage sites

CARLETON UNIVERSITY - CIMS

New Paradigm/New Tools Training Program

2 Sept.

14:30 TS4 - Underwater Heritage Documentation**16:00 Chairman: Dimitrios Skarlatos****Room: Plenary**

DEVELOPING AFFORDABLE BATHYMETRIC ANALYSIS
TECHNIQUES USING NON-CONVENTIONAL PAYLOAD FOR
CULTURAL HERITAGE INSPECTIONS

Mugnai, Francesco; Ridolfi, Alessandro; Bianchi, Matteo; Franchi, Matteo;
Tucci, Grazia

SOFTWARE COMPARISON FOR UNDERWATER
ARCHAEOLOGICAL PHOTOGRAMMETRIC APPLICATIONS

Vlachos, Marinos; Berger, Louise; Mathelier, Rose; Agrafiotis, Panagiotis;
Skarlatos, Dimitrios

SEARCH & INSPECTION ARCHAEOLOGICAL UNDERWATER
CAMPAIGNS IN THE FRAMEWORK OF THE EUROPEAN
ARROWS PROJECT

Allotta, Benedetto; Costanzi, Riccardo; Mugnai, Francesco; Reggiannini, Marco;
Ridolfi, Alessandro; Scaradozzi, David

THE DIGITAL RESTITUTION OF LOT 3317: USING UW
PHOTOGRAMMETRY TO GENERATE HERITAGE VALUE IN
VR EXPERIENCES

Tousant, Kyle Thomas David; Fai, Stephen

2 Sept.

14:30 **TS5 - HBIM I**

16:00 **Chairman: Fulvio Rinaudo**

Room: Exhibition

NEW REALITIES FOR CANADA'S PARLIAMENT: A
WORKFLOW FOR PREPARING HERITAGE BIM FOR GAME
ENGINES AND VIRTUAL REALITY

Pybus, Cailen; Graham, Katie; Doherty, J.; Arellano, N.; Fai, Stephen

TOWARDS THE AUTOMATIC 3D PARAMETRIZATION OF
NON-PLANAR SURFACES FROM POINT CLOUDS IN HBIM
APPLICATIONS

Román, Javier; Lerones, Pedro M.; Llamas, José; Zalama, Eduardo; García-
Bermejo, Jaime G.

HBIM FOR THE SEISMIC VULNERABILITY ASSESSMENT OF
TRADITIONAL BELL TOWER

Mondello, Attilio; Garozzo, Raissa; Salemi, Angelo; Santagati, Cettina

HBIM ORIENTED TOWARDS THE MASTER PLAN OF THE
CHARTERHOUSE OF JEREZ (CÁDIZ, ESPAÑA)

Castellano Román, Manuel; Pinto Puerto, Francisco



2 Sept.

14:30 TS6 - Restoration, Rehabilitation and Conservation of CH**16:00 Chairman: Mario Santana****Room: Multipurpose**

DESIGNING AND CONSTRUCTION OF THE SPECTRAL LIBRARY FOR TYPICAL PIGMENTS USED IN CHINESE PAINTINGS

Lyu, Shuqiang; Liu, Yiyi; Hou, Miaole; Gao, Zhenhua; Yang, Xueyun; Gu, Mingyan

3D INSPECTION OF THE RESTORATION AND CONSERVATION OF STAINED GLASS WINDOWS USING HIGH RESOLUTION STRUCTURED LIGHT SCANNING

Rahrig, Max; Torge, Manfred

NEGRO TOWER: DOCUMENTATION, CONSERVATION AND RESTORATION

García-León, Josefina; Collado Espejo, Pedro Enrique; Jiménez González, Francisco Joaquín

A MULTIDISCIPLINARY DOCUMENTAL REPRESENTATION METHOD FOR KINETIC AND ENVIRONMENTAL ART

Gasparetto, Francesca; Devecchi, Alice; Baratin, Laura

16:00 – 16:30 Coffee Break

2 Sept.

16:30 TS7 - Point Cloud Processing I**17:30 Chairman: Jaehong Ahn****Room: Plenary**

AN AUTOMATED PROCESS TO DETECT EDGES IN UNORGANIZED POINT CLOUDS

Mitropoulou, Aikaterini; Georgopoulos, Andreas

SPARSE POINT CLOUD FILTERING BASED ON COVARIANCE FEATURES

Farella, Elisa Mariarosaria; Torresani, Alessandro; Remondino, Fabio

AUTOMATIC HERITAGE BUILDING POINT CLOUD SEGMENTATION AND CLASSIFICATION USING GEOMETRICAL RULES

Murtiyoso, Arnadi; Grussenmeyer, Pierre

2 Sept.

16:30 TS8 - Citizens Participation in Cultural Heritage**17:30 Chairman: Michelle Duong****Room: Exhibition**

THE “MINGA” COMMUNITY PARTICIPATION FOR THE
MAINTENANCE OF VERNACULAR HERITAGE BUILDINGS IN
THE HISTORICAL CENTER OF CUENCA, ECUADOR

Achig-Balarezo, María Cecilia; Tenze, Alicia

SURVEYING TO GAUGE STAKEHOLDERS' PARTICIPATION
IN URBAN HERITAGE CONSERVATION

Siguencia Avila, Maria Eugenia; Avila Luna, Domenica; Hermida Palacios,
Maria Augusta

PHOTOGRAMMETRY AS A PARTICIPATORY RECOVERY
TOOL AFTER DISASTERS: A GROUNDED FRAMEWORK FOR
FUTURE GUIDELINES

Pezzica, Camilla; Piemonte, Andrea; Bleil de Souza, Clarice; Cutini, Valerio

2 Sept.

16:30 **TS9 - Sustainable Development in Cultural Heritage**

17:30 **Chairman: Mona Hess**

Room: Multipurpose

RESEARCH PROGRESS ON THE FOUR-IN-ONE METHOD
SYSTEM FOR SUSTAINABLE PROTECTION OF
ARCHITECTURAL HERITAGE

Chi, Yu; Li, Aiqun; Hou, Miaole; Deng, Yang; Wang, ChongChen

ETHICAL FRAMEWORK FOR HERITAGE RECORDING
SPECIALISTS APPLYING DIGITAL WORKFLOWS FOR
CONSERVATION

Santana Quintero, Mario; Fai, Stephen; Smith, Laurie; Duer, Anna; Barazzetti,
Luigi

MANAGEMENT PLANS AND WEB-GIS SOFTWARE
APPLICATIONS AS ACTIVE AND DYNAMIC TOOLS TO
CONSERVE AND VALORIZE HISTORIC PUBLIC GARDENS

Cazzani, Alberta; Zerbi, Carlotta Maria; Brumana, Raffaella

18:30 – 20:00 WELCOME DRINK

- Palacio de los Sofraga, Calle de López Núñez 1, Avila -



TUESDAY, 3rd SEPTEMBER

OVERVIEW of DAY 2

09:00-10:30	KEYNOTE PRESENTATIONS		
10:30-11:00	POSTERS SESSION	COFFEE BREAK	
11:00-12:30	<i>Room Plenary</i>	<i>Room Exhibition</i>	<i>Room Multipurpose</i>
	TS1 - Data and Sensor Integration for Heritage Documentation	TS2 - 3D Inspection & Doc of Decorated Surfaces	DEMO session
12:30-13:30	LUNCH BREAK		
13:30-14:30	POSTERS SESSION		
14:30-16:00	<i>Room Plenary</i>	<i>Room Exhibition</i>	<i>Room Multipurpose</i>
	TS3 - International Cooperation for Heritage Documentation and Conservation I	TS4 - Point Cloud Processing II	TS5 - Data Management and Archiving
16:00-16:30	POSTERS SESSION	COFFEE BREAK	
16:30-18:30	EXCURSIONS: The walls of Avila		
18:30-20:00	TAPAS TOUR + SCIENTIFIC COFFEE		

3 Sept.

09:00 **PLENARY – Keynotes**

10:30 **Chairman: Andreas Georgopoulos**

Room: Plenary

- Keynote Speaker:

Mona Hess (Otto-Friedrich University of Bamberg, Germany):
DOCUMENTING THE TANGIBLE AND THE INTANGIBLE -
QUALITATIVE AND QUANTITATIVE VALUES IN CULTURAL
HERITAGE AND A DIALOGUE BETWEEN HUMANITIES AND
STEM SUBJECTS

- Keynote Speaker:

Athanasios Moysiadis (University of Thessaly, Greece):
CHALLENGES ON THE DOCUMENTATION AND OUTREACH
OF THE INTANGIBLE CULTURAL HERITAGE

10:30 – 11:00 Posters Session & Coffee Break

3 Sept.

11:00 **TS1 - Data and Sensor Integration for Heritage Documentation**

12:30

Chairman: Grazia Tucci

Room: Plenary

MULTI-SENSOR 3D RECORDING PIPELINE FOR THE
DOCUMENTATION OF JAVANESE TEMPLES

Murtiyoso, Arnadi; Grussenmeyer, Pierre; Suwardhi, Deni; Fadilah,
Widiatmoko; Permana, Hafizh; Wicaksono, Darmawan



INTEGRATION OF ACTIVE SENSORS FOR GEOMETRIC ANALYSIS OF THE CHAPEL OF THE HOLY SHROUD

Barba, Salvatore; di Filippo, Andrea; Limongiello, Marco; Messina, Barbara

SENSOR FUSION FOR 3D ARCHAEOLOGICAL DOCUMENTATION AND RECONSTRUCTION: CASE STUDY OF "CUEVA PINTADA" IN GALDAR, GRAN CANARIA

Del Pozo, Susana; Rodríguez-Gonzálvez, Pablo; Hernández-López, David; Onrubia Pintado, Jorge; González-Aguilera, Diego

THE COMBINATION OF THE IMAGE AND RANGE-BASED 3D ACQUISITION IN ARCHAEOLOGICAL AND ARCHITECTURAL RESEARCH IN THE ROYAL CASTLE IN WARSAW

Bocheńska, Agnieszka; Markiewicz, Jakub Stefan; Łapiński, Sławomir

COMBINATION OF THERMAL AND GEOMETRIC INFORMATION FOR BIM ENRICHMENT

Macher, Hélène; Boudhaim, Marouane; Grussenmeyer, Pierre; Siroux, Monica; Landes, Tania

3 Sept.

11:00 TS2 - 3D Inspection & Documentation of Decorated Surfaces

12:30 Chairman: Francesco Fassi

Room: Multipurpose

MACRO PHOTOGRAMMETRY FOR THE DAMAGE ASSESSMENT OF ARTWORK PAINTED SURFACES

Angheluta, Laurentiu-Marian; Rădvan, Roxana

A THEORETICAL FRAMEWORK FOR MULTI-SCALE DOCUMENTATION OF DECORATED SURFACES

Reina Ortiz, Miquel; Weigert, Adam; Dhanda, Abhijit; Yang, Chen; Smith, Kristen; Min, Aungzaw; Yin Min, Paik; Su, Su; Fai, Stephen; Santana Quintero, Mario

HIDDEN GRAFFITI IDENTIFICATION ON MARBLE SURFACES THROUGH PHOTOGRAMMETRY AND REMOTE SENSING TECHNIQUES

Abate, Dante; Trentin, Mia

INTEGRATING HETEROGENEOUS DATASETS IN HBIM OF DECORATED SURFACES

Reina Ortiz, Miquel; Yang, Chen; Weigert, Adam; handa, Abhijit; Min, Aungzaw; Yin Min, Paik; Su, Su; Fai, Stephen; Santana Quintero, Mario



MULTI-WAVELENGTHS 3D LASER SCANNING FOR PIGMENT
AND STRUCTURAL STUDIES ON THE "ALLEGORY OF DIVINE
PROVIDENCE AND BARBERINI POWER" VAULT

Guarneri, Massimiliano; Ceccarelli, Sofia; Ferri De Collibus, Mario; Francucci,
Massimo; Ciaffi, Massimiliano

3 Sept.

11:00 **DEMO Session**

-
12:30

Room: Exhibition

FUNDACION SANTA MARIA LA REAL
MHS, a smart monitoring system for cultural heritage.

AQUATEKNICA
Handheld laser scanners for cultural heritage conservation

ALLTERRA
Trimble SX10 Scanning Total Station: new capabilities in cultural heritage

ECAPTURE3D
Webplatform for 3D documentation of cultural heritage with photos
and/or videos

12:30 – 13:30 Lunch Break

13:30 – 14:30 Poster Session I

3 Sept.

14:30 **TS3 - International Cooperation for Heritage Documentation
and Conservation I**

-
16:00

Chairman: Efstratios Stylianidis

Room: Plenary

ALEPPO 2010 – 2018 BEFORE AND AFTER THE WAR
Gabriele Fangi

DIGITIZING UPPER KAMA DOCUMENTING THE CULTURAL
HERITAGE ROUTES FOR THE CREATION OF INFORMATIVE
MODELS OF HISTORICAL RUSSIAN CHURCHES
Parrinello, Sandro; Picchio, Francesca; De Marco, Raffaella; Dell'Amico, Anna

COMPREHENSIVE COMPARISON BETWEEN THE QING
IMPERIAL GARDEN AND THE ENGLISH LANDSCAPE
GARDEN IN THE 18TH CENTURY: A CULTURAL HERITAGE
STUDIES APPROACH
Yin, Yongsheng



PROJECT ANQA: HERITAGE CONSERVATION OF DAMASCUS,
SYRIA THROUGH DIGITALLY-ASSISTED STORYTELLING

Brzezicki, Francesca; Ansara, Rufino Ricardo; Awad, Reem; Santana Quintero,
Mario; Abdulac, Samir; Lavenir, Marie-Laure; Tung, Burcu; Ristevski, John;
Pelletier, Maureen

3 Sept.

14:30 **TS4 - Point Cloud Processing II**

16:00 **Chairman: Christian Ouimet**

Room: Exhibition

GEOMETRIC FEATURES ANALYSIS FOR THE
CLASSIFICATION OF CULTURAL HERITAGE POINT CLOUDS

Grilli, Eleonora; Farella, Elisa; Torresani, Alessandro; Remondino, Fabio

REGISTRATION OF 2D DRAWINGS ON A 3D POINT CLOUD
AS A SUPPORT FOR THE MODELING OF COMPLEX
ARCHITECTURES

Semler, Quentin; Suwardhi, Deni; Alby, Emmanuel; Murtiyoso, Arnadi;
Macher, Hélène

PUZZLING ENGINE: A DIGITAL PLATFORM TO AID THE
REASSEMBLING OF FRACTURED FRAGMENTS

de Lima Hernandez, Roberto; Vincke, Stan; Bassier, Maarten; Mattheuwsen,
Lukas; Derdaele, Jens; Vergauwen, Maarten

ASSESSMENT OF A KEYPOINTS DETECTOR FOR THE
REGISTRATION OF INDOOR AND OUTDOOR HERITAGE
POINT CLOUDS

Assi, Rami; Landes, Tania; Murtiyoso, Arnadi; Grussenmeyer, Pierre

3 Sept.

14:30 **TS5 - Data Management and Archiving**

16:00 **Chairman: Minna silver**

Room: Multipurpose

RESEARCH OF FUZHOU HISTORICAL BUILDING
MANAGEMENT PLATFORM BASED ON DATA WAREHOUSE
TECHNOLOGY

Li, Wenbin; Li, Gongli; Yang, Yong

TOWARDS AN ADVANCED CONSERVATION STRATEGY: A
STRUCTURED DATABASE FOR SHARING 3D
DOCUMENTATION BETWEEN EXPERT USERS

Achille, Cristiana; Tommasi, Cinzia; Rechichi, Fabrizio; Fassi, Francesco; De
Filippis, Elena



WIDENING AUDIENCES – MAKING HERITAGE RECORDING
DATA EASILY ACCESSIBLE VIA HTML APPLICATIONS

Boulanger, Celine; Ouimet, Christian; Kretz, Shawn; Gregg, John

OPTIMIZING THE POTENTIAL OF RESEARCH DATA
THROUGH AN INTEGRATED DATA MANAGEMENT
APPROACH: CONSIDERING RESEARCH METHOD, DATA LIFE
CYCLE, BIG DATA AND LINKED DATA IN AN ERESEARCH
EXAMPLE IN AUSTRALIAN ROCK ART

Haubt, Robert; Jalandoni, Andrea

16:00 – 16:30 Posters Session & Coffee Break

Posters Session I

3 Sept.

P1 - 3D DIGITIZATION OF COMPLEX EXHIBITION ITEMS
(MOUNTED SKELETONS OF DINOSAURS) AND GENERATION OF
VIRTUAL REPLICAS FOR BIOMECHANICAL STUDIES

Rodriguez Miranda, Alvaro; Valle Melon, Jose Manuel; Torices, Angelica; Lostado,
Ruben; Navarro, Pablo; Elorriaga, Garbiñe; Korro Bañuelos, Jaione; Zornoza-Indart,
Ainara

P2 - THE SANSEVERO CHAPEL, A THREE-DIMENSIONAL POINT OF
VIEW.

Cera, Valeria; Marcos González, D.; Garcia, Luis Antonio

P3 - PHOTOGRAMMETRY AS A METHOD FOR RETRIEVING
GEOMETRICAL INFORMATION ON THE 20-TH CENTURY
HERITAGE. THE AGIP COLONY IN CESENATICO

Bartolomei, Cristiana; Benedetti, Anna Chiara; Morganti, Caterina; Predari, Giorgia

P4 - GEOGRAPHICAL INFORMATION SYSTEMS AS A TOOL FOR 3D
VISUALIZATION OF LOST ARCHITECTURAL HERITAGE

Gunay, Serkan

P5 - THE TRACES OF THE PAST: INFORMATIVE TOOLS FOR THE
RECONSTRUCTION OF AURELIAN WALLS IN RIONE TESTACCIO

Cianci, Maria Grazia; Molinari, Matteo

P6 - APPLICATION OF OBLIQUE PHOTOGRAPHY AND GIS
TECHNOLOGIES IN THE INTEGRATED CONSERVATION AND
DEVELOPMENT OF HISTORIC CITIES IN CHINA: PRACTICES IN
SHIGATSE, TIBET AND QUANZHOU (ZAYTON), FUJIAN



Wang, Tong; Zhou, Li

P7 - "CENTOCHIESE": HUNDRED CHURCHES IN ROME. A
PHOTOGRAMMETRIC DOCUMENTATION PROJECT

Fangi, Gabriele; Nardinocchi, Carla; Rubeca, Gianluca

P8 - PHOTOGRAMMETRY FOR QUICK SURVEY IN EMERGENCY
CONDITIONS: THE CASE OF VILLA GALVAGNINA

Nannei, Virna Maria; Fassi, Francesco; Mirabella Roberti, Giulio

P9 - 3D VIRTUALIZATION OF AN UNDERGROUND SEMI-SUBMERGED
CAVE SYSTEM

Nocerino, Erica; Menna, Fabio; Farella, Elisa; Remondino, Fabio

P10 - THE OCTAGON OF THE NIDAROS CATHEDRAL IN
TRONDHEIM: CONSTRUCTIVE, HISTORICAL AND TECHNICAL
STUDIES ABOUT ITS RESTORATION PROCEDURES UNTIL THE 19TH
CENTURY

Menargues Rajadell, Angel

P11 - RHINOCEROS 5 + VRAY AS A TOOL FOR THE EVALUATION OF
CONDITIONS IN BIC ENVIRONMENTS: THE CASES OF THE
ATARAZANAS, THE CONVENT OF SAN AGUSTÍN AND THE PLAZA
NUEVA IN SEVILLE

Navarro-de Pablos, Javier; Mosquera-Perez, Clara; Navas-Carrillo, Daniel; del Espino-Hidalgo, Blanca; Pérez-Cano, M. Teresa

P12 - DOCUMENTING HISTORICAL RESEARCH FOR A COLLECTION
INFORMATION MODELLING. A PROPOSAL FOR A DIGITAL ASSET
MANAGEMENT SYSTEM

Giovannini, Elisabetta Caterina; Mafri, Noemi; Lo Turco, Massimiliano

P13 - ALGORITHM MODELING OF ANCIENT ARCHITECTURE FOR
HERITAGE DOCUMENTATION

Wang, Xi

P14 - DISCRIMINATION OF CULTURAL RELICS SIMILARITY BASED
ON PHASH ALGORITHM AND SIFT OPERATOR

Hua, Wei; Hou, Miaole; Yang, Su; Dong, Youqiang

P15 - A MULTI-SCALAR PHOTOGRAMMETRIC RECORDING
APPROACH IN TERMEZ (UZBEKISTAN)

Angas, Jorge; Uribe, Paula; Ariño, Enrique; Gurt, Josep María; Martínez-Ferreras, Verónica; Pidaev, Shakir



P16 - HISTORICAL PHOTOS AND VISUALIZATIONS: POTENTIAL FOR RESEARCH

Dewitz, Leyla; Kröber, Cindy; Messemer, Heike; Maiwald, Ferdinand; Münster, Sander; Bruschke, Jonas; Niebling, Florian

P17 - RAPID PROTOTYPING FOR THE EXTENSION OF THE ACCESSIBILITY TO CULTURAL HERITAGE FOR BLIND PEOPLE

Scianna, Andrea; Di Filippo, Gabriella

P18 - PHYSICAL AND VIRTUAL RECONSTRUCTION FOR AN INTEGRATED ARCHAEOLOGICAL MODEL: 3D PRINT AND MAQUETTE

Fregonese, Luigi; Giordani, Nicoletta; Adami, Andrea; Bachinsky, Giulia; Taffurelli, Laura; Rosignoli, Olga; Helder, Jacopo

P19 - DIGITAL HERITAGE DOCUMENTATION OF MODERN ARCHITECTURE IN CUENCA - ECUADOR

Preti Ochoa, Silvia Paola; Tituana Tituana, Karina Belen; Carvallo Ochoa, Juan Pablo; Heras Barros, Veronica Cristina

P20 - STRUCTURAL ANALYSIS OF WOOD BEAMS BY NON-DESTRUCTIVE METHODS IN RESTORATION WORKS OF THE CATHEDRAL OF MORELIA, MEXICO

Carrillo Gómez, Mayra Irery; Sotomayor Castellanos, Javier Ramon; Raya Gonzáles, David

P21 - 3D INTERPRETATION AND FUSION OF MULTIDISCIPLINARY DATA FOR HERITAGE SCIENCE: A REVIEW

Adamopoulos, Efstathios; Rinaudo, Fulvio

P22 - INTEGRATIVE IRT FOR DOCUMENTATION AND INTERPRETATION OF ARCHAEOLOGICAL STRUCTURES

Griffo, Marika; Cimadomo, Paolo; Menconero, Sofia

P23 - THE CHURCH OF SANT'ANDREA IN BERGAMO: AN EXEMPLE OF INTEGRATED SURVEY FOR KNOWLEDGE AND CONSERVATION

Cardaci, Alessio; Roberti, Giulio Mirabella; Azzola, Pietro

P24 - GIS OR BIM? A COMPARISON APPLIED TO THE CONSERVATION MANAGEMENT PLAN OF A 20th CENTURY ARCHITECTURAL HERITAGE

Del Curto, Davide; Garzulino, Andrea; Allegretti, Federica; Mazza, Serena

P25 - AN AUTOMATIC EXTRACTION METHOD FOR THE PARAMETERS OF MULTI-LOD BIM MODELS FOR TYPICAL COMPONENTS OF WOODEN ARCHITECTURAL HERITAGE

Hou, Miaole; Liu, Haoyu; Li, Aiqun

P26 - 3D DATA INTERPRETATION USING TREATISES. GEOMETRIC RULES TO BUILD COFFERED DOMES

Capone, Mara; Lanzara, Emanuela



P27 - BIM ORIENTED ALGORITHMIC RECONSTRUCTION OF BUILDING COMPONENTS FOR THE EXISTING HERITAGE

Giannattasio, Carlo; Papa, Lia Maria; D'Agostino, Pierpaolo

P28 - MANAGEMENT PROCESSES RECONSTRUCTION OF HISTORICAL BUILDINGS SUPPORTED BY SMART TECHNOLOGY—A CASE STUDY OF FUZHOU CITY

Qu, Wei; Li, Mingjie; Zhang, Xiaoqing; Wang, Zhe

P29 - DOCUMENTATION, ANALYSIS AND REPRESENTATION OF MODERNIST HERITAGE THROUGH BUILDING INFORMATION MODELING

Maietti, Federica; Zattini, Andrea

P30 - RESEARCH ON THE FRAMEWORK OF THE SMART CONSERVATION MANAGEMENT SYSTEM FOR THE HISTORIC CITY FUZHOU

Zhang, Gong; Yang, Yong; Huang, Zhongyuan; Li, Gongli; Li, Mingjie; Wang, Zhe; Lin, Shaopeng

P31 - STUDY ON THE SURVEY, IDENTIFICATION CRITERIA AND TOOL SYSTEM OF HISTORICAL BUILDINGS SUPPORTED BY THE TECHNOLOGY OF GIS

Liu, Kangning; Xue, Yang; Zhao, Danyu; Huang, Zhongyuan

P32 - DIGITAL TECHNOLOGIES FOR INCLUSIVE CULTURAL HERITAGE: THE CASE STUDY OF SERRALUNGA D'ALBA CASTLE

Ruffino, Pablo Angel; Permadi, Dendi; Gandino, Elisa; Haron, Anis; Osello, Anna; Wong, Chee Onn

16:30 [Excursions: Walls of Avila](#)

18:30 [Tapas Tour](#)

18:30 Scientific Coffee – Moderator: Rebecca Napolitano

This scientific coffee seeks to bring together Emerging Professionals (< 15 years professional experience in the field) within CIPA community so that they can meet and learn from each other and from leader people. The scientific coffee is being prepared in conjunction with the ICOMOS Emerging Professionals Working Group (EPWG) which was established in 2017 in response to a call for expansion to the Emerging Professional membership within ICOMOS. One of the main aims of the EPWG is to become a platform where emerging professionals in the culture, conservation and heritage industries can network with each other, with leadership in their fields and partner organizations. In addition to enjoying some tasty drinks and tapas, we will be discussing how emerging professionals can get more involved within the international heritage community through opportunities such as the International Exchange Program. Please join us Tuesday, September 3rd at La Bruja bar at 18:30 - we would love to have you there!



WEDNESDAY, 4th SEPTEMBER

OVERVIEW of DAY 3

09:00-10:30	KEYNOTE, SPONSOR PRESENTATIONS		
10:30-11:00	POSTERS SESSION	COFFEE BREAK	
	<i>Room Plenary</i>	<i>Room Exhibition</i>	<i>Room Multipurpose</i>
11:00-12:30	TS1 - 3D Documentation, Preservation and Analysis of Heritage Sites in Central America	TS2 - 3D Surveying and Modeling of Heritage Vaults	TS3 - International Cooperation for Heritage Documentation and Conservation II
12:30-13:30	LUNCH BREAK		
13:30-14:30	POSTERS SESSION II		
	<i>Room Plenary</i>	<i>Room Exhibition</i>	<i>Room Multipurpose</i>
14:30-16:00	TS4 - Developments and Investigations in 3D Reconstruction	TS5 - VR & AR in Heritage	TS6 - Panel on "Ethics for Heritage Recording Specialist's"
16:00-16:30	POSTERS SESSION	COFFEE BREAK	
	<i>Room Plenary</i>	<i>Room Exhibition</i>	<i>Room Multipurpose</i>
16:30-17:45	TS7 - Handheld and Mobile 3D Scanning	TS8 - Heritage Places and Data at Risk	TS9- Learning, Knowledge Transfer and Training in CH
20:00	GALA DINNER		

4th Sept. 09:15 - PLENARY – Keynote and Sponsor Presentation

10:30 Chairman: Diego Gonzalez-Aguilera Room: Plenary

- Keynote Speaker:

Francesco Fassi (Politecnico di Milano, Italy):

SURVEY COMPLEX ARCHITECTURE WITH A METROLOGICAL APPROACH: CHALLENGES AND SCOPES

- Sponsors presentation:

Application of photogrammetry and videogrammetry techniques on the eyescloud3d.com web platform for documentation of cultural heritage – Miguel González Cuétara ([Ecapture3D](#))

10:30 – 11:00 Poster Session & Coffee Break

4th Sept. 11:00 - 12:30 TS1 - 3D Documentation, Preservation and Analysis of Heritage Sites in Central America

Chairman: Luis Javier Sánchez Aparicio

Room: Plenary

COMPREHENSIVE DIGITAL DOCUMENTATION AND PRELIMINARY STRUCTURAL ASSESSMENT OF SATUNSAT: A



UNIQUE MAYA ARCHITECTURAL LABYRINTH AT
OXKINTOK, YUCATAN, MEXICO

Rissolo, Dominique; Hess, Michael R.; Huchim Herrera, Jose; Lo, Eric;
Petrovic, Vid; Amador, Fabio Esteban; Kuester, Falko

RECOVERING THE LOST CULTURAL HERITAGE PLACES OF
MEXICO: THE CASE OF THE TEMPLE OF JESUS MARIA –
MASONIC LODGE OF MERIDA

Rodriguez, Antonio; Magaña, Julio Misael

ANALYSIS AND ASSESSMENT OF VIEWS UNDER THE
CONSIDERATIONS OF HISTORICAL URBAN LANDSCAPE
(HUL). CASE STUDY CUENCA, ECUADOR

Rodas, Catalina Monserrath; Vintimilla, Silvana Tatiana; Astudillo, Jaime
Sebastian

INVESTIGATIONS ON THE DESIGN PROCESS OF ELADIO
DIESTE: 3D PARAMETRIC MODELLING OF MODERN LATIN
AMERICAN ARCHITECTURAL HERITAGE

Melachos, Felipe Corres; Florio, Wilson; Maietti, Federica; Rossato, Luca;
Balzani, Marcello

4 Sept.

11:00 **TS2 - 3D Surveying and Modeling of Heritage Vaults**

12:30 **Chairman: Cindy Kroeber**

Room: Exhibition

3D MODELLING BETWEEN IDEATION GEOMETRY AND
SURVEYED ARCHITECTURE: THE CASE OF THE VAULTED
SYSTEM OF 'APPARTAMENTO DI MEZZANOTTE' IN
PALAZZO CARIGNANO

Spallone, Roberta; Vitali, Marco; Natta, Fabrizio

DIGITAL SURVEY IN BRAMANTE'S MASTERPIECES

Bolognesi, Cecilia; Fiorillo, Fausta

THE ASSESSMENT OF THE BAROQUE VAULT
CONSTRUCTION TECHNIQUE BY SCAN-TO-BIM PROCESS: ST.
BERNARD'S CHAPEL IN PLASY MONASTERY

Stanga, Chiara; Hasnikova, Hana; Previtali, Mattia; Brumana, Raffaella;
Grimoldi, Alberto; Banfi, Fabrizio

POINT CLOUD SEGMENTATION AND FILTERING TO VERIFY
THE GEOMETRIC GENESIS OF SIMPLE AND COMPOSED
VAULTS

Lanzara, Emanuela; Samper Sosa, Albert; Herrera, Blas



FROM THE GENERAL DOCUMENTATION OF HADRIAN'S
VILLA TO DESIGN ANALYSIS OF COMPLEX CUPOLAS: A
PROCEDURAL APPROACH

Cipriani, Luca; García-León, Josefina; Fantini, Filippo

4 Sept.

11:00

12:30

**TS3 - International Cooperation for Heritage Documentation
and Conservation II**

Chairman: Fabio Remondino

Room: Multipurpose

CONSERVING BUILT HERITAGE FOR POSTERITY: A
CONSERVATION APPROACH IN BAGAN

Tse, Demiana; Paladini, Alice; Dhanda, Abhijit; Weigert, Adam; Reina Ortiz,
Miquel; Santana Quintero, Mario; Min, Aungzaw; Gyi, Mon; Su, Su

AN UPDATE FROM THE RESEED PROJECT

Jeanson, Loïc; Cotte, Michel; Kerouanton, Jean-Louis; Laroche, Florent

DIGITAL CULTURAL HERITAGE MEETS DIGITAL
HUMANITIES

Münster, Sander; Apollonio, Fabrizio; Bell, Peter; Kuroczynski, Piotr; Di
Lenardo, Isabella; Rinaudo, Fulvio; Tamborrino, Rosa

PROPOSING DIGITAL MODELS FOR THE DISCUSSION OF
CONTESTED CONSERVATION PRACTICE: CASE STUDIES
FROM TAMIL NADU, INDIA

Prizeman, Oriel Elizabeth Clare; Branfoot, Crispin; Rao, Kailash; Hardy, Adam

12:30 – 13:30 Lunch Break

13:30 – 14:30 Poster Session II

4 Sept.

14:30

16:00

TS4 - Developments and Investigations in 3D Reconstruction

Chairman: Pablo Rodriguez Gonzalvez

Room: Plenary

MULTI-VIEW STEREO WITH SEMANTIC PRIORS

Stathopoulou, Ellie K.; Remondino, Fabio

AUTOMATING PHOTOGRAMMETRY FOR THE 3D
DIGITISATION OF SMALL ARTEFACT COLLECTIONS

Marshall, Matthew; Baird, Quinner; Esteban, Enrique; Johnson, Andrew;
Summerskill, Steve



EVALUATING THE EFFECT OF USING MIRRORS IN 3D RECONSTRUCTION OF SMALL ARTEFACTS

Kontogianni, Georgia; Lindstaedt, Maren; Kersten, Thomas P.; Georgopoulos, Andreas

VIDEOGRAMMETRY VS PHOTOGRAMMETRY FOR HERITAGE 3D RECONSTRUCTION

Torresani, Alessandro; Remondino, Fabio

4 Sept.

14:30 **TS5 - VR & AR in Heritage**

16:00 **Chairman: Hyeseung Shim**

Room: Exhibition

PHOTOGRAMMETRY USING VIRTUAL RESTORATION OF WALL-PAINTINGS OF THE ROCK-HEWN CHURCHES IN THE GÖREME VALLEY, CAPPADOCIA AND ITS VALUE FOR THE MUSEUM'S CONTENTS

Higuchi, Ryo; Sugawara, Hirofumi; Gülyaz, Murat E.

BIM MIXED REALITY TOOL FOR THE INSPECTION OF HERITAGE BUILDINGS

Brito, Carlos; Alves, Nelson; Magalhães, Luis; Guevara, Miguel

TECHNOLOGICAL INNOVATION AND NEW PRESENTATION STRATEGIES FOR VIRTUAL MUSEUM EXHIBITIONS

Chiarenza, Stefano; Accardi, Aldo Renato Daniele; Inglis, Rosalinda

ARTALIVE: AN ANDROID APPLICATION FOR AUGMENTED REALITY WITHOUT MARKERS, BASED ON ANAMORPHIC IMAGES

Alvaro-Tordesillas, Antonio; Crespo-Aller, Sergio; Barba, Salvatore Jackson, Clinton; Mofutsanyana, Leomile; Mlungwana, Nonyameko

4 Sept.

14:30 **Panel on "Ethics for Heritage Recording Specialists"**

16:00 **Chairman: Mario Santana**

Room: Multipurpose

In any professional association that serves the public interest, members have to abide by a number of ethical principles, and this is currently missing in the heritage recording field. This panel will gather major players in the heritage recording field for conservation, including representatives from CIPA, the Getty Conservation Institute, Arck-Project, Cyark, Factum Foundation and ICONEM. The experts will discuss the need for ethical principles (or a code of ethics) applicable to the heritage recording specialist in their conduct, responsibilities, and professional practice. Focus will be given to the heritage recording practice contributing to better planning, recording, processing and dissemination of



digital workflows for the conservation of historic places. Furthermore, the panel will deal with the potential benefits but also in the profound respect expected from heritage recording specialists to the public, stakeholders and communities obtaining these digital products from their historic place.

Poster Session II & Coffee Break

4 Sept.

16:30 TS6 - Handheld and Mobile 3D Scanning

17:45 Chairman: Susana del Pozo

Room: Plenary

BACKPACK MOBILE MAPPING SOLUTION FOR DTM EXTRACTION OF LARGE INACCESSIBLE SPACES

Fassi, Francesco; Perfetti, Luca

A NEW HANDHELD SCANNER FOR 3D SURVEY OF SMALL ARTIFACTS: THE STONEX F6

Patrucco, Giacomo; Rinaudo, Fulvio; Spreafico, Alessandra

LASER-VISUAL-INERTIAL ODOMETRY BASED SOLUTION FOR 3D HERITAGE MODELING: THE SANCTUARY OF THE BLESSED VIRGIN OF TROMPONE

Bronzino, Giosuè Pier Carlo; Grasso, Nives; Matrone, Francesca; Osello, Anna; Piras, Marco

HANDHELD VOLUMETRIC SCANNER FOR 3D PRINTED INTEGRATIONS OF HISTORICAL ELEMENTS: COMPARISON AND RESULTS

De Luca, Daniela; Del Giudice, Matteo; Grasso, Nives; Matrone, Francesca; Osello, Anna; Piras, Marco

4 Sept.

16:30 TS7 - Heritage Places and Data at Risk

17:45 Chairman: Michael Doneus

Room: Exhibition

ASSESSMENT OF EARTHQUAKE-INDUCED DAMAGE LEVEL ON BUILDINGS: ANALYSIS OF TWO DIFFERENT SURVEY METHODS FOR A CASE STUDY

Croce, Valeria; Caroti, Gabriella; Piemonte, Andrea

DOCUMENTING HYDRAULIC DEVICES AT RISK IN DEFENSIVE HERITAGE OF AL-ANDALUS THROUGH PHOTOGRAMMETRIC TECHNIQUES

García-Pulido, Luis José; Peñalver Martín, Sara



HERITAGE AT RISK IN BRAZIL: WHAT LESSONS CAN WE LEARN FROM THE REGENERATION OF ROYAL ARSENAL, EAST LONDON?

Citron, Rafaela; Talamini, Josiane

A RISK BASED APPROACH TO HERITAGE MANAGEMENT IN SOUTH AFRICA

Jackson, Clinton; Mofutsanyana, Leomile; Mlungwana, Nonyameko

4Sept.

16:30 **TS8 - Learning, Knowledge Transfer and Training in CH**

17:45 **Chairman: José Luis Lerma**

Room: Multipurpose

INTEGRATING DIGITAL DOCUMENTATION AND COMMUNITY ENGAGEMENT: 'UNVEILING THE HIDDEN HAMINA' INTERNATIONAL SUMMER SCHOOL

Fernandez, Jorge; Medeiros, Leonor

DIGITAL MODELS OF STONE SAMPLES FOR DIDACTICAL PURPOSES

Rodríguez-González, Pablo; García-Peralo, Estefania; Oliveira, Daniel; Rodríguez-Martín, Manuel

DIGITAL HERITAGE: ACADEMIC RESEARCH IN BRAZIL IN THE LAST FIVE YEARS

Ribeiro de Araujo, Ana Paula; Santos Lima Carlos, Claudio Antônio; Ribeiro Sampaio, Julio Cesar; Ferreira Vieira, Ricardo

Posters Session II

4Sept.

P33 - PARAMETRIC HERITAGE. THE DIGITAL RECONSTRUCTION OF P.L. NERVI'S PALAZZO DEL LAVORO IN THE 3DMODELLING AGE

Tomalini, Andrea; Lo Turco, M.

P34 - DISCUSSION ON THE PROBLEM OF REGULARIZED RECONSTRUCTION IN HBIM

Wu, Cong; Li, Dongyao; Wang, Xi; Bai, Chengjun

P35 - REGULARIZED RECONSTRUCTION OF GRIDS SYSTEM FOR TRADITIONAL CHINESE TIMBER STRUCTION BUILDING IN HBIM

Yang, Jiaqiang; Wang, X.; Wu, C.; Bai, C.



P36 - 3D RECONSTRUCTION OF THE ROMAN DOMUS IN THE ARCHAEOLOGICAL SITE OF LYLIBEAUM (MARSALA, ITALY)
Ebolese, Donatella; Lo Brutto, Mauro; Dardanelli, Gino

P37 - CLOSE-RANGE PHOTOGRAMMETRY PRACTICE: GRAPHIC DOCUMENTATION OF THE INTERIOR OF THE WALLS OF ÁVILA (SPAIN)
Aliberti, Licinia; Iglesias Picazo, Pedro

P38 - DAMAGE RISK ASSESSMENT OF PAINTING ON THE WOOD CONSTRUCTION IN TYPICAL TAIWANESE TEMPLE BY HOT AND HUMID CLIMATE
Lee, M.C. Jeffrey; Huang, L.W.; Wang, R.Z.; Lin, C.J.; Tsai, Y.L; Lin, M.L.

P39 - THE FARMHOUSES OF THE ROMAN COUNTRYSIDE: CENSUS AND CATALOG. THE CASE OF THE ESTATE OF FARNESIANA
Calisi, Daniele

P40 - HERITAGE LANDSCAPE INFORMATION MODEL (HLIM): TOWARDS A CONTEXTUALISED FRAMEWORK FOR DIGITAL LANDSCAPE CONSERVATION IN CHINA
Yang, Chen; Han, Feng; Wu, Hangbin

P41 - MAPPING SPATIAL QUALITY OF SLOW ROUTES WITH A GIS-BASED METHOD. A COMPARATIVE ASSESSMENT OF ALTERNATIVE ROUTES
Scandiffio, Alessandro

P42 - IMPLEMENTATION OF SURVEY AND THREE-DIMENSIONAL MONITORING OF ARCHAEOLOGICAL EXCAVATIONS OF THE KHIRBAT AL-DUSAQ SITE, JORDAN
Alby, Emmanuel; Vigouroux, Elodie; Elter, René

P43 - MONITORING OF DEFORMATION OF THE FOGUANG TEMPLE'S EAST MAIN HALL UNDER THE CONCEPT OF PREVENTIVE CONSERVATION
Li, Yumin

P44 - STORING AN OVERSIZED MUSEU DE LISBOA TEXTILE BANNER COLLECTION
Nunes, Aida Maria

P45 - LAMINATED WOOD AND MULTIMATERIAL WOOD – ADHESIVE MESHAS REPLACEMENTS OF SOLID WOOD IN RESTORATION OF HISTORICAL BUILDINGS



Macedo Alquicira, Israel; Sotomayor Castellanos, Javier Ramon; Castro Sánchez, Francisco Javier

P46 - THE USAGE OF TLS AND SFM DURING THE RESTORATION PROCESS OF SPANISH NATIONAL MONUMENT

Spairani Berrio, Yolanda; Saura Gómez, Pascual; Huesca tTortosa, Jose Antonio; Spairani Berrio, Silvia; Torregrosa Fuentes, David

P47 - RESULTS OF HYPERSPECTRAL ANALYSIS FOR THE CHARACTERIZATION OF MUDWALL. COMPARISON BASED ON NORMALIZATION

Pozo-Ledesma, Celia; Martínez-Corrales, Luis Francisco; Sánchez-Fernández, Manuel; Aguilar Mateos, Pedro Luis; Tejado, Juan José

P48 - LIVING DATA IN HERCULANEUM DOCUMENTING LARGE ARCHAEOLOGICAL SITES, MANAGING DATA, PLANNING CONSERVATION AND MAINTENANCE: THE HERCULANEUM CONSERVATION PROJECT EXPERIENCE

D'Andrea, Ascanio; Di Lillo, Angela; Laino, Annunziata; Pesaresi, Paola

P49 - THE LOST HERITAGE OF ROMAN IRON AND STEEL BRIDGES. VIRTUAL RECONSTRUCTION OF TWO CASE STUDIES

Morganti, Renato; Tosone, Alessandra; Abita, Matteo; Di Donato, Danilo

P50 - THE 3D SURVEY OF THE ROMAN BRIDGE OF SAN LORENZO IN PADOVA (ITALY): A COMPARISON BETWEEN SFM AND TLS METHODOLOGIES APPLIED TO THE ARCH STRUCTURE

Carraro, Filippo; Monego, Michele; Callegaro, Chiara; Mazzariol, Alessandro; Perticarini, Maurizio; Menin, Andrea; Achilli, Vladimiro; Bonetto, Jacopo; Giordano, Andrea

P51 - 3D SURVEYING AND MODELLING OF ROMAN MONUMENT WITH ARCH

Giannaris, Ioannis; Gerotziafa, Maya; Prantsidi, Maria; Karachaliou, Eleni; Stylianidis, Efstratios

P52 - UNMANNED AERIAL VEHICLE PHOTOGRAMMETRY AND 3D MODELING APPLIED TO VIRTUAL RECONSTRUCTION OF AN ARCHAEOLOGICAL SITE IN THE BRONCE AGE

Carvajal-Ramírez, Fernando; Navarro-Ortega, Ana Dolores; Agüera-Vega, Francisco; Martínez-Carricondo, Patricio

P53 - UAV PHOTOGRAMMETRY AND HBIM FOR THE VIRTUAL RECONSTRUCTION OF HERITAGE

Carvajal-Ramírez, Fernando; Martínez-Carricondo, Patricio; Yero-Paneque, Lourdes María; Agüera-Vega, Francisco

P54 - BUNKERS OF THE SPANISH WAR: FROM THE REAR TO THE TO THE INTERWAR TECHNICAL CULTURE

Martínez-Medina, Andrés; Juan-Gutiérrez, Pablo Jeremías; Marco-Molina, Juan Antonio



P55 - 3D MODELLING FOR VALORIZING 20TH CENTURY ARCHITECTURAL ARCHIVES: THE CASE OF THE UNBUILT PROJECT FOR A THEATRE IN CAGLIARI BY CARLO MOLLINO

Spallone, Roberta; Capaldi, Francesco Emanuele

P56 - SMARTWALL: A NEW WEB-BASED PLATFORM FOR THE VALORIZATION OF THE MEDIEVAL WALL OF AVILA

Sánchez-Aparicio, Luis Javier; Moreno-Blanco, Raimundo; Martín-Jiménez, José Antonio; Rodríguez-Gonzálvez, Pablo; Muñoz-Nieto, Ángel Luis; González-Aguilera, Diego

P57 - RESEARCH AND TECHNOLOGICAL INNOVATION FOR THE KNOWLEDGE, CONSERVATION AND VALORIZATION OF CULTURAL HERITAGE IN SICILY

Cardaci, Alessio; Versaci, Antonella

P58 - MAKING VIRTUAL ARCHEOLOGY GREAT AGAIN (WITHOUT SCIENTIFIC COMPROMISE)

Paradis, Marie-Anne; Nicolas, Théophile; Gaugne, Ronan; Barreau, Jean-Baptiste; Auger, Réginald; Gouranton, Valérie

P59 - MUSEUM TOUR THROUGH VIRTUAL REALITY. A GAMING APPROACH FOR CULTURAL HERITAGE KNOWLEDGE AND DISSEMINATION

Di Paola, Francesco; Inzerillo, Laura; Alogna, Yuri

P60 - A STUDY ON PLANNING AND PLATFORM FOR INTERACTIVE EXHIBITION OF SCIENTIFIC CULTURAL HERITAGE

Jo, Young Hoon; Kim, Jikio; Cho, Nam Chul; Lee, Chan Hee; Yun, Yong Hyun; Kwon, Da Kyung

P61 - THE SECRETS OF S. MARIA DELLE GRAZIE: VIRTUAL FRUITION OF AN ICONIC MILANESE ARCHITECTURE

Bolognesi, Cecilia; Aiello, Damiano

P62 - RESEARCH AND DISPLAY OF THE RESTORATION OF ZHAOXI-LING BASED ON VR AND AR TECHNOLOGY

Li, Dongzu; Cao, Peng

P63 - VIRTUALIZE TO VALORIZE THE HIDDEN HERITAGE - THE VIRTUALARCH PROJECT

Farella, Elisa Mariarosaria; Remondino Fabio; Lobinger, Christoph; Hemker, Christiane; Schulenkorf, Peter

20:00 GALA DINNER

- Cuatro Postes Hotel / Restaurant, Catra. Salamanca 21, Avila



THURSDAY, 5th SEPTEMBER

OVERVIEW of DAY 4

09:00-10:30	<i>Room Plenary</i>	<i>Room Exhibition</i>	<i>Room Multipurpose</i>
	TS1 - HBIM II	Time Machine Workshop	TS2 - Restoration, Rehabilitation & Conservation of Heritage
10:30-11:00	COFFEE BREAK		
11:00-12:30	<i>Room Plenary</i>	<i>Room Exhibition</i>	<i>Room Multipurpose</i>
	TS3 - Artificial Intelligence in Heritage II	TS4 - 3D Doc, Preservation & Analysis of Heritage sites in the Middle East	TS5 - Heritage 3D Documentation and Modeling II
12:30-13:30	LUNCH BREAK		
13:30-14:30	DEMO SESSION – Exhibition room		
14:30-16:00	<i>Room Plenary</i>	<i>Room Exhibition</i>	<i>Room Multipurpose</i>
	TS6 – Heritage 3D Documentation in the Mediterranean Area	TS7 - Monitoring and Conservation of Heritage	TS8 - Stability and Structural Analyses of Heritage
16:00-16:45	AWARDS & CLOSING SESSION		
17:00-18:30	EXCURSIONS: Cathedral of Avila		
18:30-20:00	TAPAS TOUR		

5 Sept.

09:00 **TS1 - HBIM II**

10:30 **Chairman: Pierre Grussenmeyer**

Room: Plenary

HBIM GENERATION: EXTENDING GEOMETRIC PRIMITIVES AND BIM MODELLING TOOLS FOR HERITAGE STRUCTURES AND COMPLEX VAULTED SYSTEMS

Banfi, Fabrizio

DIGITAL TWIN: A HBIM-BASED METHODOLOGY TO SUPPORT PREVENTIVE CONSERVATION OF HISTORIC ASSETS THROUGH HERITAGE SIGNIFICANCE AWARENESS

Jouan, Pierre-André; Hallot, Pierre

HBIM IMPLEMENTATION FOR AN OTTOMAN MOSQUE. CASE OF STUDY: SULTAN MEHMET FATIH II MOSQUE IN KOSOVO

Di Stefano, Francesco; Malinverni, Eva Savina; Pierdicca, Roberto; Fangi, Gabriele; Ejupi, Shkurte

VIRTUAL RECONSTRUCTION IN BIM TECHNOLOGY AND DIGITAL INVENTORIES OF HERITAGE

Agustin, Luis; Quintilla, Marta



5 Sept.

09:00 Time Machine Workshop**10:30 Chairman: Sander Muenster****Room: Exhibition**

This workshop invites participants of the CIPA symposium to (1) learn about the Time Machine project (<https://timemachine.eu>) as well as the potential of Time Machine for digital heritage scholarship. In (2) hands-on mini hackathons, participants will be able to explore computer vision technologies, user experience design and testing methods as well as augmented reality applications for cultural heritage education. Finally, (3) participants are invited to learn about and contribute feedback to the draft Time Machine research programme.

5 Sept.

09:00 TS2 - Restoration, Rehabilitation & Conservation of Heritage**10:30 Chairman: Rand Eppich****Room: Multipurpose**

GRAPHICAL DATA FLOW BASED IN TLS AND
PHOTOGRAMMETRY FOR CONSOLIDATION STUDIES OF
HISTORICAL SITES. THE CASE STUDY OF JUROMENHA
FORTRESS IN PORTUGAL

Mateus, Luís Miguel Cotrim; Fernández, Jorge García; Ferreira, Victor Manuel Mota; Oliveira, Camila Franco; Aguiar, José Manuel Portela; Gago, António Sousa; Pacheco, António Pedro; Pernão, João Nuno

DIAGNOSIS OR AUTO DIAGNOSIS? ENHANCING
CONSERVATION PRACTICES OF BUILT CULTURAL
HERITAGE. CASE OF STUDY BENIGNO MALO, ECUADOR

García, Gabriela; Amaya, Jorge; Tenze, Alicia; Cardoso, Fausto

ALGORITHMS FOR THE AUTOMATIC DETECTION AND
CHARACTERIZATION OF PATHOLOGIES IN HERITAGE
ELEMENTS FROM THERMOGRAPHIC IMAGES

Garrido, Iván; Lagüela, Susana; Sfarra, Stefano; Solla, Mercedes

EQUAL PROPORTION REPRODUCTION METHOD OF
GROTTO BASED ON POINT CLOUD

Wei, Putong; Li, Aiqun; Hou, Miaole; Zhu, Lei; Xu, Donghui; Ning, Bo

10:30 – 11:00 Coffee Break

5 Sept.

11:00 TS3 - Artificial Intelligence in Heritage II**12:30 Chairman: Geert Verhoeven****Room: Plenary**

CLASSIFICATION OF OIL PAINTING USING MACHINE LEARNING WITH VISUALIZED DEPTH INFORMATION
Kim, Jihoon; Jun, Ji Young; Hong, Minki; Shim, Hyeeseung; Ahn, Jaehong

BETWEEN IMAGES AND BUILT FORM: AUTOMATING THE RECOGNITION OF STANDARDISED BUILDING COMPONENTS USING DEEP LEARNING
Pezzica, Camilla; Schroeter, Julien; Prizeman, Oriel Elizabeth; Jones, Christopher B.; Rosin, Paul L.

DEEP CONVOLUTIONAL NEURAL NETWORKS FOR SENTIMENT ANALYSIS OF CULTURAL HERITAGE
Pierdicca, Roberto; Paolanti, Marina; Martini, Massimo; Felicetti, Andrea; Malinverni, Eva Savina; Frontoni, Emanuele; Zingaretti, Primo

ARTIFICIAL INTELLIGENCE AS A SOLUTION FOR MUSEUM VISIT DIGITAL CONTENT ENRICHMENT: THE CASE OF THE FOLKLORE MUSEUM OF XANTHI
Ioannakis, George; Bampis, Loukas; Koutsoudis, Anestis

ARCHITECTURAL HERITAGE RECOGNITION IN HISTORICAL FILM FOOTAGE USING NEURAL NETWORKS
Condorelli, Francesca; Rinaudo, Fulvio; Salvatore, Francesco; Tagliaventi, Stefano

5 Sept.

11:00
-
12:30

TS4 - 3D Documentation, Preservation and Analysis of Heritage sites in Middle East

Chairman: Gabriele Fangi

Room: Exhibition

2D & 3D RECONSTRUCTION WORKFLOWS FROM ARCHIVE IMAGES, CASE STUDY OF DAMAGED MONUMENTS AT BOSRA AL-SHAM CITY (SYRIA)
Al Khalil, Omar; Grussenmeyer, Pierre

RECONSTRUCTING THE LANDSCAPE OF THE PAST IN THE AGRICULTURAL TERRACES OF THE CITY OF AVDAT
Arav, Reuma; Filin, Sagi; Avni, Yoav

COMBINED PRECISE DOCUMENTATION AND VIRTUAL RECONSTRUCTION OF PROPHET NAHUM SHRINE IN ALQOSH, IRAQ
Pavelka, Karel; Šedina, Jaroslav; Pavelka jr, Karel



CLASSIFICATION OF ARCHAEOLOGICAL SITES FOR
HERITAGE MANAGEMENT INVENTORY: THE CASE OF THE
ANCIENT SYNAGOGUES IN THE GALILEE

Alef, Yael

ROCK ART RECORDING IN KHATM AL MELAHA (UNITED
ARAB EMIRATES): MULTIRANGE DATA SCANNING AND WEB
MAPPING TECHNOLOGIES

Angas, Jorge; Jasim, Sabah A.; Bea, Manuel; Farjas, Mercedes; Uribe, Paula;
Lanau, Paloma; Otero, Xosefina

5 Sept.

11:00 **TS5 - Heritage 3D Documentation and Modeling II**

12:30 **Chairman: Stephen Fai**

Room: Multipurpose

3D MODELING OF A COMPLEX BUILDING: FROM MULTI-
VIEW IMAGE FUSION TO GOOGLE EARTH PUBLICATION

Inzerillo, Laura; Barone, Francesco; Roberts, Ronald

DIGITAL MODELLING AND REASSEMBLY OF DISMANTLED
HERITAGE STRUCTURES BASED ON REMOTE SENSING
DATA

Vincke, Stan; Bassier, Maarten; de Lima Hernandez, Roberto; Dejaeghere,
Ines; Carbonez, Kim; Vergauwen, Maarten

CORRECT USE OF COLOUR FOR CULTURAL HERITAGE
DOCUMENTATION

Molada-Tebar, Adolfo; Marqués-Mateu, Ángel; Lerma, José Luis

3D MODELLING OF ARCHITECTURAL BLOCKS AND
ANTIQUÉ SCULPTURES FOR THE CONSERVATION AND THE
PROMOTION OF ARCHAEOLOGICAL HERITAGE –
EXPERIMENTS IN ALSACE

Koehl, Mathieu; Fuchs, Matthieu

TO BE PART OF... ARCHITECTURE, DECORATION OR
ICONOGRAPHY. DOCUMENTING AZULEJO AS
INTEGRATED HERITAGE

Salema de Carvalho, Rosário

12:30 – 13:30 Lunch Break

13:30 -14:30 Demo Session – Exhibition room

ESRI

Esri Solutions for Photogrammetry



TOPCON

GTL1000 - a new hybrid total station that integrates scanner and imagery

FBK-3DOM

Automated classification of 3D point clouds

TU DRESDEN

Geo-located historical photographs displayed in a 4D interface for Digital Humanities research

5 Sept.

14:30 **TS6 – Heritage 3D Documentation in the Mediterranean Area**

16:00 **Chairman: Pieter-Jan De Vos**

Room: Plenary

DOCUMENTING NEA PAPHOS FOR CONSERVATION AND
MANAGEMENT

Ace, Darby; Marrs, Jamie; Santana, Mario; Barazzetti, Luigi; Demas, Martha;
Friedman, Leslie; Roby, T.; Chamberlain, Mary; Duong, Michelle; Awad, Reem

RESONATION OF THE VITRUVIUS'S MODULAR, SYSTEMATIC
APPROACH WITH THE COMPUTATIONAL MINDSET OF THE
DIGITAL AGE: 3D MODELING OF THE IONIAN TEMPLES OF
AEGEAN TURKEY

Denker, Ahmet

PHOTOGRAMMETRIC STUDY OF THE QUBBET EL-HAWA
COPTIC CHURCH (ASWAN, EGYPT)

Mozas-Calvache, Antonio Tomás; Pérez-García, José Luis; Barba-Colmenero,
Vicente; Jiménez-Serrano, Alejandro

THE DIGITALIZATION OF ANCIENT EGYPTIAN COFFINS: A
DISCUSSION OVER DIFFERENT TECHNIQUES FOR
RECORDING FINE DETAILS

Mandelli, Alessandro; Perfetti, Luca; Fiorillo, Fausta; Fassi, Francesco; Rossi,
Corinna; Greco, Christian

5 Sept.

14:30 **TS7 - Monitoring and Conservation of Heritage**

16:00 **Chairman: Yael Alef**

Room: Exhibition

DEVELOPING A MONITORING WORKFLOW FOR THE
TEMPLES OF JAVA

Herbig, Ulrike; Stampfer, Lukas; Grandits, Doris; Mayer, Irmengard;
Pöchtrager, Markus; Ikaputra, Dimas; Setyastuti, Ari

FIELD WORK MONITORING AND HERITAGE
DOCUMENTATION FOR THE CONSERVATION PROJECT. THE
"FORO EMILIANO" IN TERRACINA (ITALY)

Ronchi, Diego; Limongiello, Marco; Ribera, Federica



INFRARED THERMAL IMAGING AS A NON-DESTRUCTIVE
INVESTIGATION METHOD FOR BUILDING
ARCHAEOLOGICAL PURPOSES

Luib, Anna

MONITORING MOVEMENT AT MAKLI

Eppich, Rand; Mahessar, Ayaz Kazi; Nawas, Serfaz

5 Sept.

14:30 **TS8 - Stability and Structural Analyses of Heritage**

16:00 **Chairman: Helene Macher**

Room: Multipurpose

FROM TLS TO FE ANALYSIS: POINTS CLOUD EXPLOITATION
FOR STRUCTURAL BEHAVIOUR DEFINITION. THE SAN
CIRIACO'S BELL TOWER

Lucidi, Alighiero; Quattrini, Ramona; Giannetti, Sarah; Santoni, Arianna;
Clementi, Francesco

A COMPARATIVE STUDY BETWEEN WMMS AND TLS FOR
THE STABILITY ANALYSIS OF THE SAN PEDRO CHURCH
BARREL VAULT BY MEANS OF THE FINITE ELEMENT
METHOD

Sánchez-Aparicio, Luis Javier; Conde, Borja; Maté-González, Miguel Ángel;
Mora, Rocio; Sánchez-Aparicio, María; García-Álvarez Joaquin; González-
Aguilera, Diego

FROM LIDAR DATA TOWARDS HBIM FOR STRUCTURAL
EVALUATION

Argiolas, Raffaele; Cazzani, Antonio; Reccia, Emanuele; Bagnolo, Vincenzo

UNDERSTANDING THE EFFECTS OF DOCUMENTATION
DETAIL ON DIAGNOSTICS OF HISTORIC STRUCTURES

Napolitano, Rebecca; Hess, Michael; Glisic, Branko

16:00 - 16:45 **AWARDS & CLOSING SESSION**

17:00 [Excursion: Cathedral of Avila](#)

18:30 [Tapas Tour](#)



CIPAVILA 2019

27th International Symposium

Tapas Tour



- Congress Venue
- 1 Sofraga Palacio - Welcome Party
- 2 El Rincón
- 3 El Atrio
- 4 Reyes Católicos
- 5 Soul Kitchen
- 6 La Posada de la Fruta
- 7 La Bruja - Scientific Coffe
- 8 La Santa
- 9 El Barbacana
- 10 Las Cancelas

