



INTERNATIONAL CONFERENCE FLORENCE HERI-TECH - The Future of Heritage Science and Technologies

16 – 18 MAY 2022

Locations:

16-17 May: Palazzo della Borsa Camera di Commercio di Firenze -address: Piazza Mentana 1

18 May: Palazzo Gondl -address: Piazza San Firenze 2-4

PROGRAM 16 MAY 2022

Location: Palazzo della Borsa Camera di Commercio di Firenze, Piazza Mentana 1

WELCOME AND COMPANY SESSION - SOTTANI ROOM - h 9.30 - 12 -00 - CHAIR: LUCA PUGGELLI - DIEF, Department of Industrial Engineering of University of Florence

NR	AUTHORS AND INSTITUTIONS	NATION	TITLE OF PAPER	AREA	Corresponding author and contacts
	QUANTANALITICA Srl		https://www.quantanalitica.com/		mailto:marketing@quantanalitica.com
	CEAM Control Equipment srl - https://www.ceamgroup.com/ - "		IoT technologies for preventive conservation. A project in collaboration with Opificio delle Pietre Dure and Florence Natural History Museum		Chiara Manfredi (chiara.manfredi@unifi.it)
	Tema Sistemi S.p.A. – Rome, Italy. F. C. - https://www.temasistemi.eu/ Firtech S.r.l. – Taranto, Italy - http://www.firtech.it/		SAFENG PC SCIENTIFIC AND INDUSTRIAL RESEARCH PROJECT FOR FIRE PROTECTION AND RESILIENCE OF CULTURAL HERITAGE		Sonia Canevarolo, Responsabile Ricerca e Sviluppo Firtech S.r.l. (research@firtech.it), (info@firtech.it)
	STORM PROJECT (dott.ssa Silvia Boi) STORMlab (Dott.ssa Maria Concetta Capua)		http://www.storm-project.eu/		Fabio Perossini perossini@kpeople.com

INAUGURATION - AUDITORIUM - h 12.00

LLUNCH - - h 13.00

1ST SESSION - ICT AND DIGITAL HERITAGE - AUDITORIUM ROOM - h 14.30 - 18.30 - CHAIR: ROCCO FURFERI - LAPO GOVERNI - YARI VOLPE - DIEF, Department of Industrial Engineering of University of Florence

NR	AUTHORS AND INSTITUTIONS	NATION	TITLE OF PAPER	AREA	Corresponding author and contacts
4	Carla Balocco Department of Architecture DiDA, University of Florence Firenze, Italy Simona Carbone, Freelance Engineering cooperating with DiDA, University of Florence, Firenze, Italy	Italy	Sustainable well-lighting design for Cultural Heritage. Natural light control by natural-biological elements and digital technologies	ICT AND DIGITAL HERITAGE	Carla Balocco carla.balocco@unifi.it

19	<p>Porgeir Sigurðsson, ERCIM postdoctoral fellow at NTNU, the Norwegian University of Science and Technology, Gjøvik, Norway</p> <p>Tor Weidling, National Archives of Norway, 0862 Oslo</p> <p>Haukur Þorgeirsson, Árni Magnússon Institute for Icelandic Studies, 102 Reykjavik</p> <p>Jon Yngve Hardeberg, NTNU, Norwegian University of Science and Technology, 2815 Gjøvik, Norway</p>	Norway	Darker inks in 14th-century Norway	ICT AND DIGITAL HERITAGE	Porgeir Sigurðsson, ERCIM postdoctoral fellow at NTNU, the Norwegian University of Science and Technology, Gjøvik, Norway Thorgsi@outlook.com
20	<p>Valerio De Luca, Department of Engineering for Innovation, University of Salento, Lecce, Italy</p> <p>Laura Corchia, Department of Cultural Heritage, University of Salento, Lecce, Italy</p> <p>Carola Gatto, Department of Cultural Heritage, University of Salento, Lecce, Italy</p> <p>Giovanna Ilenia Paladini, Department of Engineering for Innovation, University of Salento, Lecce, Italy</p> <p>Lucio Tommaso De Paolis, Department of Engineering for Innovation, University of Salento, Lecce, Italy</p>	Italy	An Augmented Reality Application for the Frescoes of the Basilica of Saint Catherine in Galatina	ICT AND DIGITAL HERITAGE	Lucio Tommaso De Paolis, Department of Engineering for Innovation, University of Salento, Lecce, Italy lucio.depaolis@unisalento.it
24/36	<p>Andrea Barucci Institute of Applied Physics "Nello Carrara", IFAC-CNR, Sesto Fiorentino, Florence, Italy</p> <p>Chiara Canfailla Institute of Applied Physics "Nello Carrara", IFAC-CNR, Sesto Fiorentino, Florence, Italy; Department of Information Engineering, University of Florence, Florence, Italy</p> <p>Costanza Cucci Institute of Applied Physics "Nello Carrara", IFAC-CNR, Sesto Fiorentino, Florence, Italy</p> <p>Matteo Forasassi Department of Information Engineering, University of Florence, Florence, Italy</p> <p>Massimiliano Franci Center for Ancient Mediterranean and Near Eastern Studies, CAMNES, Florence, Italy</p> <p>Guido Guarducci Center for Ancient Mediterranean and Near Eastern Studies, CAMNES, Florence, Italy</p> <p>Tommaso Guidi Institute of Applied Physics "Nello Carrara", IFAC-CNR, Sesto Fiorentino, Florence, Italy; Department of Information Engineering, University of Florence, Florence, Italy</p> <p>Marco Loschiavo Department of Information Engineering, University of Florence, Florence, Italy</p> <p>Marcello Picollo</p>	Italy	Ancient Egyptian Hieroglyphs Segmentation and Classification with Convolutional Neural Networks	ICT AND DIGITAL HERITAGE	Andrea Barucci Institute of Applied Physics "Nello Carrara", IFAC-CNR, Sesto Fiorentino, Florence, Italy, a.barucci@ifac.cnr.it
36/37	<p>Alessandro Riga, Department of Biology, University of Florence, Florence, Italy</p> <p>Tommaso Mori, Department of Biology, University of Florence, Florence, Italy</p> <p>Fabio Di Vincenzo, Natural History Museum, University of Florence, Florence, Italy</p> <p>Jacopo Moggi-Cecchi, Department of Biology, University of Florence, Florence, Italy</p> <p>Filippo Pasquinelli, Department of Radiology, Ospedale Santa Maria Nuova, Firenze, Italy</p> <p>Roberto Carpi, Department of Radiology, Ospedale Santa Maria Nuova, Firenze, Italy</p>	Italy	3D Methods for the Anthropological Cultural Heritage	ICT AND DIGITAL HERITAGE	Tommaso Mori, Department of Biology, University of Florence, Florence, Italy tommaso.mori@unifi.it

37/118	Irina-Mihaela Ciortan, NTNU - Norwegian University of Science and Technology, Norway Yoko Arteaga, C2RMF, France Sony George, NTNU - Norwegian University of Science and Technology, Norway Jon Yngve Hardeberg, NTNU - Norwegian University of Science and Technology, Norway	Norway	Multiscale Painter Classification	ICT and Digital Heritage	Irina-Mihaela Ciortan, NTNU - Norwegian University of Science and Technology, Norway irina-mihaela.ciortan@ntnu.no
42/44	Laura Baratin, University of Urbino, School of Conservation and Restoration of Cultural Heritage, Urbino, Pesaro-Urbino, Marche, Italy Veronica Tronconi, University of Urbino, School of Conservation and Restoration of Cultural Heritage, Urbino, Pesaro-Urbino, Marche, Italy Francesca Gasparetto, University of Urbino, School of Conservation and Restoration of Cultural Heritage, Urbino, Pesaro-Urbino, Marche, Italy	Italy	Towards a cultural ecosystem: museum narration meets conservation issues	ICT AND DIGITAL HERITAGE	Veronica Tronconi, University of Urbino, School of Conservation and Restoration of Cultural Heritage, Urbino, Pesaro-Urbino, Marche, Italy v.tronconi@campus.uniurb.it
47/105	Agnese Babini, Norwegian University of Science and Technology, Gjøvik, Innlandet, Norway Sony George, Norwegian University of Science and Technology, Gjøvik, Innlandet, Norway Tiziana Lombardo, Collection Center, Swiss National Museum, Affoltern am Albis, Zurich, Switzerland Jon Yngve Hardeberg, Norwegian University of Science and Technology, Gjøvik, Innlandet, Norway	Switzerland and Norway	A portable set up for in-situ hyperspectral imaging of stained glass panels	ICT AND DIGITAL HERITAGE	Agnese Babini, Norwegian University of Science and Technology, Gjøvik, Innlandet, Norway agnese.babini@ntnu.no
55/18	Elīna Vikmane, LAC Research Centre, Latvian Academy of Culture, Riga, Latvia Ance Kristāla, LAC Research Centre, Latvian Academy of Culture, Riga, Latvia	Latvia	Pandemic-driven Digital Innovation in Latvian Museums: Diversity, Diffusion, and Role in Sustainable Development	ICT AND DIGITAL HERITAGE	Elīna Vikmane, LAC Research Centre, Latvian Academy of Culture, Riga, Latvia Elina.Vikmane@lka.edu.lv
62/122	Jovan Djordjevic, Università Ca Foscari, Venezia VE, Italy Diego Calaon, Università Ca Foscari, Venezia VE, Italy	Italy Serbia	Practical and Digital Proposals for Restoration of the Main Apse of the Basilica of Santa Maria Assunta in Torcello	ICT AND DIGITAL HERITAGE	Jovan Djordjevic, Università Ca Foscari, Venezia VE, Italy jovandjordjevic44@gmail.com
73/12	Luca A. Ludovico, Music Computer Laboratory (LIM) "Giovanni Degli Antoni" Computer Science Department University of Milan, Milan, Italy Alessia Motola, Music Computer Laboratory (LIM) "Giovanni Degli Antoni" Computer Science Department University of Milan, Milan, Italy Giorgio Presti, Music Computer Laboratory (LIM) "Giovanni Degli Antoni" Computer Science Department University of Milan, Milan, Italy Adriano Baratè, Music Computer Laboratory (LIM) "Giovanni Degli Antoni" Computer Science Department University of Milan, Milan, Italy	Italy	Augmentation of a Virtual Exhibition of Paintings Through Sonification	ICT AND DIGITAL HERITAGE	Adriano Baratè, Music Computer Laboratory (LIM) "Giovanni Degli Antoni" Computer Science Department University of Milan, Milan, Italy adriano.barate@unimi.it
89/98	Sofia Brizzi, Italian National Research Council – Institute of Heritage Science (CNR-ISPC), Via Madonna del Piano 10, Sesto Fiorentino (FI), Tuscany, Italy.- University of Florence, Departement of Architecture (DIDA), via della Mattonaia 8, Florence, Tuscany, Italy. Anastasia Cottini, University of Florence, Departement of Architecture (DIDA), via della Mattonaia 8, Florence, Tuscany, Italy. Rachele Manganelli Del Fà, Italian National Research Council – Institute of Heritage Science (CNR-ISPC), Via Madonna del Piano 10, Sesto Fiorentino (FI), Tuscany, Italy.	Italy	Chiostrò Verde of the basilica of Santa Maria Novella, Firenze: survey of the state of conservation of detached wall paintings by photographic techniques	ICT AND DIGITAL HERITAGE	Sofia Brizzi, Italian National Research Council – Institute of Heritage Science (CNR-ISPC) Sesto Fiorentino (FI), Tuscany, Italy.- University of Florence, Departement of Architecture (DIDA), Florence, Tuscany, Italy. sofia.brizzi@ispc.cnr.it

PROGRAM 17 MAY 2022

Location: Palazzo della Borsa Camera di Commercio di Firenze, Piazza Mentana 1

2ND SESSION (ENVIRONMENT AND CULTURAL HERITAGE & ARCHITECTURE SESSION/MATERIALS SCIENCE / DIAGNOSTICS AND MONITORING) - AUDITORIUM ROOM - h 9.30 - 13.00 - CHAIR: ANNA PELAGOTTI - Doctor in Electronics Engineering, Policy Expert at ERCEA, the Executive Agency of the European Research Council

NR	AUTHORS AND INSTITUTIONS	NATION	TITLE OF PAPER	AREA	Corresponding author and contacts
	European Project APACHE - Active & Intelligent PACKaging materials and display cases as a tool for preventive conservation of Cultural Heritage.	Italy	New tools and solutions for the preventive conservation of Cultural Heritage	DIAGNOSTICS AND MONITORING	Rodorigo Giorgi – University of Florence and Center for colloids and surface science (CSGI)
2	Silvia Bianchini, Department of Earth Sciences, University of Florence, Florence (FI), Italy Davide Festa, Department of Earth Sciences, University of Florence, Florence (FI), Italy	Italy	Satellite radar interferometry for monitoring historic urban fabric: Lucca and Florence test cities	ENVIRONMENT AND CULTURAL HERITAGE	Silvia Bianchini, Department of Earth Sciences, University of Florence Florence (FI), Italy silvia.bianchini@unifi.it
81/3	Karl Kupka ICOMOS / Ministry of Internal Affairs Haarlem / Noord-Holland / The Netherlands	The Netherlands	Governance of Climate Change and Restoration of Cultural Heritage as sustainable Urban Strategies in Holland	ENVIRONMENT AND CULTURAL HERITAGE & ARCHITECTURE	Karl Kupka kupkafloridi@outlook.com
53/19	Carlos José Abreu da Silva Costa, Atelier Samthiago Manager, Viana do Castelo, Portugal Marta Alexandre da Costa Frade, Universidade de Lisboa, Faculdade de Belas-Artes, Centro de Investigação e Estudos em Belas-Artes, CIEBA. Lisboa, Portugal	Portugal	Traditional or innovative systems for the reproduction of decorative elements	MATERIALS SCIENCE	Marta Alexandre da Costa Frade, Universidade de Lisboa, Faculdade de Belas-Artes, Centro de Investigação e Estudos em Belas-Artes, CIEBA. Lisboa, Portugal m.frade@belasartes.ulisboa.pt
92/21	Dr. Boaz Paz, Paz Laboratorien für Archäometrie, 55543 Bad Kreuznach, Hesse, Germany Nikolaus Wilke, ICM Integrated Contamination Management BV, 1950 Kampenhout, Flanders, Belgium	Germany, Belgium	An investigation into the decontamination of biocide polluted museum collections using the temperature and humidity controlled ICM method	MATERIALS SCIENCE	Dr. Boaz Paz Paz Laboratorien für Archäometrie, 55543 Bad Kreuznach, Hesse, Germany, b.paz@paz-lab.de
93/22	Dipl.-Ing. Jens Engel, Remmers GmbH, Germany	Germany	Development of a New Cleaning Product for Heavy Metals Containing Facades	MATERIALS SCIENCE	Dipl.-Ing. Jens Engel Remmers GmbH Germany
99/127	Snežana Vučetić, University of Novi Sad, Faculty of Technology, Laboratory for Materials in Cultural Heritage, Novi Sad, Serbia Helena Hirszenberger, University of Novi Sad, Faculty of Technology, Laboratory for Materials in Cultural Heritage, Novi Sad, Serbia John Milan van der Bergh, University of Novi Sad, Faculty of Technology, Laboratory for Materials in Cultural Heritage, Novi Sad, Serbia Bojan Miljević, University of Novi Sad, Faculty of Technology, Laboratory for Materials in Cultural Heritage, Novi Sad, Serbia Jonjaua Ranogajec, University of Novi Sad, Faculty of Technology, Laboratory for Materials in Cultural Heritage, Novi Sad, Serbia Maria Tzoutzouli Malesevic, GP HGP DOO NOVI SAD, Novi Sad, Serbia Ana Tomic, University of Novi Sad, Faculty of Technology, Laboratory for Materials in Cultural Heritage, Novi Sad, Serbia	Serbia	Laboratory and in situ control of cleaning techniques and solutions performed on stone façade of the Serbian National Theatre building	MATERIALS SCIENCE	Snežana Vučetić, University of Novi Sad, Faculty of Technology, Laboratory for Materials in Cultural Heritage, Novi Sad, Serbia snezanap@uns.ac.rs

54/87	<p>Ester Barbieri, Department of Civil, Chemical, Environmental and Materials Engineering - University of Bologna, Italy</p> <p>Elisa Franzoni, Department of Civil, Chemical, Environmental and Materials Engineering - University of Bologna, Italy</p> <p>Alessandro Lambertini, Department of Civil, Chemical, Environmental and Materials Engineering - University of Bologna, Italy</p> <p>Cesare Pizzigatti, Department of Civil, Chemical, Environmental and Materials Engineering – University of Bologna, Italy</p> <p>Francesca Trevisiol, Department of Civil, Chemical, Environmental and Materials Engineering – University of Bologna, Italy</p> <p>Gabriele Bitelli, Department of Civil, Chemical, Environmental and Materials Engineering – University of Bologna, Italy</p>	Italy	3D data management and thermographic studies as a knowledge base for the conservation of a rationalist architecture	DIAGNOSTICS AND MONITORING	Ester Barbieri, Department of Civil, Chemical, Environmental and Materials Engineering - University of Bologna, Italy ester.barbieri2@unibo.it
72/34	<p>Sveva Longo, National Research Council of Italy, Institute of Heritage Science (CNR-ISPC), Sesto Fiorentino, Florence, Italy</p> <p>Marta Castellini, National Research Council of Italy, Institute of Heritage Science (CNR-ISPC), Sesto Fiorentino, Florence, Italy</p> <p>Federico De Luca, National Research Council of Italy, Institute of Heritage Science (CNR-ISPC), Sesto Fiorentino, Florence, Italy</p> <p>Claudia Conti, National Research Council of Italy, Institute of Heritage Science (CNR-ISPC), Milano Italy</p> <p>Alessandra Botteon, National Research Council of Italy, Institute of Heritage Science (CNR-ISPC), Milano, Italy</p> <p>Barbara Salvadori, National Research Council of Italy, Institute of Heritage Science (CNR-ISPC), Sesto Fiorentino, Florence, Italy</p> <p>Giorgio Franco Pocobelli, National Research Council of Italy (CNR-ISPC), 50019 Sesto Fiorentino, Italy</p> <p>Donata Magrini, National Research Council of Italy, Institute of Heritage Science (CNR-ISPC), Sesto Fiorentino, Florence, Italy</p> <p>Cristiano Riminesi, National Research Council of Italy, Institute of Heritage Science (CNR-ISPC), Sesto Fiorentino, Florence, Italy</p>	Italy	The Terrace of Saturn in Palazzo Vecchio, Florence (Italy): material characterisation and monitoring for preventive conservation	DIAGNOSTICS AND MONITORING	Sveva Longo, National Research Council of Italy, Institute of Heritage Science (CNR-ISPC), Sesto Fiorentino, Florence, Italy sveva.longo@ispc.cnr.it
86/126	<p>Emanuela Proietti, Consiglio Nazionale delle Ricerche - Istituto per la Microelettronica e Microsistemi, Via Fosso del Cavaliere 100, 00133 Rome , Italy</p> <p>G. Capocchia, Consiglio Nazionale delle Ricerche - Istituto per la Microelettronica e Microsistemi, Via Fosso del Cavaliere 100, 00133 Rome , Italy</p> <p>R. Marcelli, Consiglio Nazionale delle Ricerche - Istituto per la Microelettronica e Microsistemi, Via Fosso del Cavaliere 100, 00133 Rome , Italy</p> <p>G. M. Sardi, Consiglio Nazionale delle Ricerche - Istituto per la Microelettronica e Microsistemi, Via Fosso del Cavaliere 100, 00133 Rome , Italy</p> <p>B. Caponera, Istituto VA-VE, Piazza Trento 5, 00019 Tivoli, Rome , Italy</p>	Italy	Microwave imaging applied to non-invasive diagnostic of Cultural Heritage artworks	DIAGNOSTICS AND MONITORING	Emanuela Proietti, Consiglio Nazionale delle Ricerche - Istituto per la Microelettronica e Microsistemi, Via Fosso del Cavaliere 100, 00133 Rome , Italy emanuela.proietti@artov.imm.cnr.it
97/130	<p>Luca Di Angelo, University of L'Aquila Heritechne - Montelucio di Roio, L'Aquila AQ ITALY.</p> <p>Paolo Di Stefano, University of L'Aquila Heritechne - Montelucio di Roio, L'Aquila AQ ITALY.</p> <p>Emanuele Guardiani, University of L'Aquila Heritechne - Montelucio di Roio, L'Aquila AQ ITALY.ITALY.</p> <p>Anna Eva Morabito, University of Salento - Department of Engineering Innovation, Lecce LE ITALY</p>		An automatic method for geometric and morphological information extraction and archiving of ceramic finds	DIAGNOSTICS AND MONITORING	Emanuele Guardiani, University of L'Aquila Heritechne - Montelucio di Roio, L'Aquila AQ ITALY.ITALY. emanuele.guardiani@graduate.univaq.it

LLUNCH - - ORE 13.00

3RD SESSION (ENGINEERING) - AUDITORIUM ROOM - 15.30 - 17.15 - CHAIR: FRANCESCO GHERARDINI - Department of Engineering "Enzo Ferrari", University of Modena and Reggio Emilia

NR	AUTHORS AND INSTITUTIONS	NATION	TITLE OF PAPER	AREA	Corresponding author and contacts
18	Elena Lucchi, EURAC Research Institute for Renewable Energy, Bolzano, Italy Eva Schito, Department of Energy, System, Territory and Construction Engineering, University of Pisa, Pisa, Italy	Italy	Challenges and opportunities for the integration of photovoltaic modules in heritage buildings through dynamic building energy simulations	ENGINEERING	Eva Schito, Department of Energy, System, Territory and Construction Engineering, University of Pisa, Pisa, Italy eva.schito@for.unipi.it
28/84	Cristina Caiulo, Studio AERREKAPPA LTD [®] engineering company, Italy Stefano Pallara, Studio AERREKAPPA LTD [®] engineering company, Italy	Italy	Energy saving for historical heritage: the domotised lighting system of the Cathedral of Nardò (Lecce)	ENGINEERING	Stefano Pallara, Studio AERREKAPPA LTD [®] engineering company, Italy info@studioaerrekappa.com
35/66	Francesca Barbagallo, Dipartimento di Ingegneria Civile e Architettura (DICA), Università di Catania Italy Edoardo Marino, Dipartimento di Ingegneria Civile e Architettura (DICA), Università di Catania Italy Marco Tanganelli, Dipartimento di Architettura (DIDA), Università di Firenze Italy Francesco Trovatelli, Dipartimento di Architettura (DIDA), Università di Firenze Italy Stefania Viti, Dipartimento di Architettura (DIDA), Università di Firenze Italy	Italy	Modeling marble artworks: the statue "Oceanus" by Giambologna	ENGINEERING	Francesco Trovatelli, Dipartimento di Architettura (DIDA), Università di Firenze Italy francesco.trovatelli@unifi.it
39/47	Gianluca Cadelano, Institute of Atmospheric Sciences and Climate (CNR-ISAC), National Research Council of Italy, Padua, Italy Shabnam Javanshir, Institute of Atmospheric Sciences and Climate (CNR-ISAC), National Research Council of Italy, Padua, Italy Laura Carnieletto, Department of Industrial Engineering, University of Padua, Padua, Italy Francesca Bampa, UNESCO Regional Bureau for Science and Culture in Europe, Venice, Italy Alessandro Bortolin, Institute of Atmospheric Sciences and Climate (CNR-ISAC), National Research Council of Italy, Padua, Italy Michele De Carli, Department of Industrial Engineering, University of Padua, Padua, Italy Adriana Bernardi, Institute of Atmospheric Sciences and Climate (CNR-ISAC), National Research Council of Italy, Padua, Italy	Italy	The impact of conservation conditions versus thermal comfort of visitors on the energy demand of a museum refurbished with geothermal systems: a virtual case study	ENGINEERING	Alessandro Bortolin, Institute of Atmospheric Sciences and Climate (CNR-ISAC), National Research Council of Italy, Padua, Italy a.bortolin@isac.cnr.it
45/30	Martina Pavan, Ma.Co.Re'. s.r.l., Rome, Italy Giulia Pompa, Ma.Co.Re'. s.r.l., Rome, Italy Pietro Nardelli, Architect, Italy Silvia Borghini, National Roman Museum, Rome, Italy, Vincenzo Fioriti, ENEA, Italian National Agency for New Technologies, Energy and Sustainable Economic Development, Rome, Italy, Angelo Tati, ENEA, Italian National Agency for New Technologies, Energy and Sustainable Economic Development, Rome, Italy, Alessandro Colucci, ENEA, Italian National Agency for New Technologies, Energy and Sustainable Economic Development, Rome, Italy, Massimiliano Baldini, ENEA, Italian National Agency for New Technologies, Energy and Sustainable Economic Development, Rome, Italy, Alessandro Picca, ENEA, Italian National Agency for New Technologies, Energy and Sustainable Economic Development, Rome, Italy,	Italy	Application of the RestArt system for stone statue reassembly validated by shaking table testing	ENGINEERING	Ivan Roselli,, ivan.roselli@enea.it

80/61	<p>Lorenzo RIPARBELLI, DAGRI, University of Florence, Florence, Italy</p> <p>Ciro CASTELLI, Opificio delle Pietre Dure, Florence, Italy</p> <p>Giovanni GUALDANI, DAGRI, University of Florence, Florence, Italy - 2 Opificio delle Pietre Dure, Florence, Italy</p> <p>Luciano RICCIARDI, Opificio delle Pietre Dure, Florence, Italy</p> <p>Andrea SANTACESARIA, Opificio delle Pietre Dure, Florence, Italy</p> <p>Luca UZIELLI, DAGRI, University of Florence, Florence, Italy</p> <p>Paola MAZZANTI, DAGRI, University of Florence, Florence, Italy</p>	Italy	An innovative method for dimensioning the crossbeams of an original painted panel, based on mechanical testing and on numerically modelling its distortion tendency	ENGINEERING	Lorenzo RIPARBELLI, DAGRI, University of Florence, Florence, Italy lorenzo.riparbelli@unifi.it
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PROGRAM 18 MAY 2022

Palazzo Gondi, Piazza San Firenze 2-4

4TH SESSION (ICT AND DIGITAL HERITAGE, DIAGNOSTICS AND MONITORING, MATERIALS SCIENCE) - PALAZZO GONDI, PIAZZA SAN FIRENZE 1, 10.00 - 13.00 - CHAIR: Kate Seymour - Stichting Restauratie Atelier Limburg (SRAL), Maastricht, The Netherlands

NR	AUTHORS AND INSTITUTIONS	NATION	TITLE OF PAPER	AREA	Corresponding author and contacts
84/46	<p>Kate Seymour, Stichting Restauratie Atelier Limburg (SRAL), Maastricht, The Netherlands. Jani Santos, XpectralTEK LDA, Braga, Portugal. Vassilis M. Papadakis, XpectralTEK LDA, Braga, Portugal.</p> <p>Betlem Alaponte, Stichting Restauratie Atelier Limburg (SRAL), Maastricht, The Netherlands. Alzbeta Prochazkova, Stichting Restauratie Atelier Limburg (SRAL), Maastricht, The Netherlands. Valentine Gatto, University of Amsterdam, Amsterdam, The Netherlands. Alice Limb, Hamilton Kerr-Institute, Cambridge, UK Nalini Biluka, Indian National Trust for Art and Cultural Heritage (INTACH), Bangalore, India.</p>	<p>The Netherlands Portugal UK India</p>	Visualising artworks: translating the invisible into diagnostic data for identifying and quantifying paint surfaces.	DIAGNOSTICS AND MONITORING	<p>Kate Seymour, Stichting Restauratie Atelier Limburg (SRAL), Maastricht, The Netherlands. k.seymour@sral.nl - Alzbeta Prochazkova, Stichting Restauratie Atelier Limburg (SRAL), Maastricht, The Netherlands. Alice Limb, Hamilton Kerr-Institute, Cambridge, UK</p>
101/93	<p>Tomas Markevicius, Paintings Conservator, doctoral researcher at the University of Amsterdam, founder of Precision Mat, LLC</p> <p>Nina Olsson, Conservator in Private Practice, Portland, OR USA, founder of Precision Mat, LLC</p> <p>Yuhui Liu, Paper and book conservator, Institute of Conservation (IBR), Bavarian State Library, Munich, Germany,</p> <p>Maddalena Magnani, Paintings Conservator, Università degli Studi di Torino, Turin, Italy, Martina Paganin, Paper and Photographic Materials Conservator, Accademia di Belle Arti di Bologna, Italy; Conservator in Private Practice, London, UK</p>	<p>Lithuania USA Italy Germany</p>	Innovation in precision low-energy heat transfer using flexible heating mats for targeted treatments in paintings and paper conservation	ENGINEERING	Maddalena Magnani, Paintings Conservator, Università degli Studi di Torino, Turin, Italy, maddalenamagnani13.96@gmail.com
31/32	<p>Marianna Belvedere, Spazio Geco Società Cooperativa, Pavia, Italy, Simone Burton, Spazio Geco Società Cooperativa, Pavia, Italy Maria Emanuela Oddo, Spazio Geco Società Cooperativa, Pavia, Italy Sergio Camici, Spazio Geco Società Cooperativa, Pavia, Italy Laura Benedetti, Spazio Geco Società Cooperativa, Pavia, Italy Luca De Sanctis, Spazio Geco Società Cooperativa, Pavia, Italy</p>	Italy	Digital manufacturing for the enhancement of heritage. The case of Spazio Geco	ICT AND DIGITAL HERITAGE	Marianna Belvedere, Spazio Geco Società Cooperativa, Pavia, Italy, marianna.b@spaziogeco.it
3	<p>Margherita Vicario, Department of Architecture DIDA, University of Florence, Italy</p> <p>Carla Balocco, Department of Architecture DIDA, University of Florence, Italy</p>	Italy	Microclimatic experimental investigation for assuring museum preventive conservation. Effective conceptual and testing means.	DIAGNOSTICS AND MONITORING	Carla.Balocco carla.balocco@unifi.it

7	<p>Nicole Dore, NAIS – Nextant Applications and Innovative Solutions – Rome, Lazio, Italy.</p> <p>Francesco Cochetti, CoopCulture – Rome, Lazio, Italy.</p> <p>Ilaria Catapano, IREA – CNR – CNR-IREA / National Research Council - Institute for Electromagnetic Sensing of the Environment – Naples, Campania, Italy</p> <p>Giovanni Ludeno, IREA – CNR – CNR-IREA / National Research Council - Institute for Electromagnetic Sensing of the Environment – Naples, Campania, Italy</p> <p>Gianluca Gennarelli, IREA – CNR – CNR-IREA / National Research Council - Institute for Electromagnetic Sensing of the Environment – Naples, Campania, Italy</p> <p>Maria Elena Corrado, ICR – Central Institute for Restoration – Rome, Lazio, Italy.</p> <p>Carlo Cacace, ICR – Central Institute for Restoration – Rome, Lazio, Italy.</p> <p>Paolo Osso, ESRI Italy – Rome, Lazio, Italy.</p> <p>Michele Luglio, NITEL - National Interuniversity Consortium for Transport and Logistics – Rome, Lazio, Italy. Francesco Zampognaro, NITEL - National Interuniversity Consortium for Transport and Logistics – Rome, Lazio, Italy.</p>	Italy	The AMOR project: when technology meets cultural heritage	DIAGNOSTICS AND MONITORING	Nicole Dore NAIS S.r.l. Rome, Lazio, Italy nicole.dore@nais-solutions.it
40/119	<p>Jeannette J. Lucejko, Department of Chemistry and Industrial Chemistry, University of Pisa, Pisa, Italy</p> <p>Irene Bargagli, Department of Chemistry and Industrial Chemistry, University of Pisa, Pisa, Italy; CNR-SCITEC, Perugia, Italy</p> <p>Marco Mattonai, Department of Chemistry and Industrial Chemistry, University of Pisa, Pisa, Italy</p> <p>Erika Ribechini, Department of Chemistry and Industrial Chemistry, University of Pisa, Pisa, Italy</p> <p>Maria Perla Colombini, Department of Chemistry and Industrial Chemistry, University of Pisa, Pisa, Italy</p> <p>Gilles Chaumat, ARC-Nucléart, CEA-Grenoble, Grenoble, France</p> <p>Susan Braovac, Museum of Cultural History, University of Oslo, Norway</p> <p>Magdalena Zborowska, Poznan University of Life Science, Poznan, Poland</p>	Italy, France, Norway, Poland	Analytical pyrolysis: a useful tool to analyze and evaluate archaeological wood treated with consolidant materials	DIAGNOSTICS AND MONITORING	Jeannette J. Lucejko, Department of Chemistry and Industrial Chemistry, University of Pisa, Pisa, Italy jeannette.lucejko@unipi.it
54/87	<p>Ester Barbieri, Department of Civil, Chemical, Environmental and Materials Engineering - University of Bologna, Italy</p> <p>Elisa Franzoni, Department of Civil, Chemical, Environmental and Materials Engineering - University of Bologna, Italy</p> <p>Alessandro Lambertini, Department of Civil, Chemical, Environmental and Materials Engineering - University of Bologna, Italy</p> <p>Cesare Pizzigatti, Department of Civil, Chemical, Environmental and Materials Engineering – University of Bologna, Italy</p> <p>Francesca Trevisiol, Department of Civil, Chemical, Environmental and Materials Engineering – University of Bologna, Italy</p> <p>Gabriele Bitelli, Department of Civil, Chemical, Environmental and Materials Engineering – University of Bologna, Italy</p>	Italy	3D data management and thermographic studies as a knowledge base for the conservation of a rationalist architecture	DIAGNOSTICS AND MONITORING	Ester Barbieri, Department of Civil, Chemical, Environmental and Materials Engineering - University of Bologna, Italy ester.barbieri2@unibo.it

56/108	<p>Marta Castellini, National Research Council of Italy, Institute of Heritage Science (CNR-ISPC), Sesto Fiorentino (FI), Italy; University of Florence, Department of Architecture, Firenze, Italy</p> <p>Oana Adriana Cuzman, National Research Council of Italy, Institute of Heritage Science (CNR-ISPC), Sesto Fiorentino (FI), Italy</p> <p>Silvia Rescic, National Research Council of Italy, Institute of Heritage Science (CNR-ISPC), Sesto Fiorentino (FI), Italy</p> <p>Stefano Landi, Individual restoration firm, Florence, Italy</p> <p>Marco Tanganelli, University of Florence, Department of Architecture, Firenze, Italy</p> <p>Cristiano Riminesi, National Research Council of Italy, Institute of Heritage Science (CNR-ISPC), Sesto Fiorentino (FI), Italy</p>	Italy	Conservation strategies for the Palazzo degli Affari in Florence (Italy): the role of protective treatments on the concrete carbonation resistance	DIAGNOSTICS AND MONITORING	<p>Marta Castellini, National Research Council of Italy, Institute of Heritage Science (CNR-ISPC), Sesto Fiorentino (FI), Italy; University of Florence, Department of Architecture, Firenze, Italy</p> <p>marta.castellini@ispc.cnr.it</p>
88/110	<p>Snežana Vučetić, University of Novi Sad, Faculty of Technology, Laboratory for Materials in Cultural Heritage, Novi Sad, Serbia</p> <p>Emilija Nikolić, Institute of Archaeology, Belgrade, Serbia</p> <p>Mladen Jovičić, Institute of Archaeology, Belgrade, Serbia</p> <p>Ivana Delić-Nikolić, Institute for Testing of Materials, Belgrade, Serbia</p> <p>Ljiljana Miličić, Institute for Testing of Materials, Belgrade, Serbia</p> <p>Jonjaua Ranogajec, University of Novi Sad, Faculty of Technology, Laboratory for Materials in Cultural Heritage, Novi Sad, Serbia</p> <p>Helena Hiršenberger, University of Novi Sad, Faculty of Technology, Laboratory for Materials in Cultural Heritage, Novi Sad, Serbia</p>	Serbia	Design of Compatible Mortars for a Late Roman Tomb in Serbia	MATERIALS SCIENCE	<p>Snežana Vučetić, University of Novi Sad, Faculty of Technology, Laboratory for Materials in Cultural Heritage, Serbia</p> <p>snezanap@uns.ac.rs</p>
26/102	<p>Sofia Brizzi, Italian National Research Council – Institute of Heritage Science (CNR-ISPC), Sesto Fiorentino (FI), Tuscany, Italy</p> <p>Emma Cantisani, Italian National Research Council – Institute of Heritage Science (CNR-ISPC), Sesto Fiorentino (FI), Tuscany, Italy</p> <p>Cristiano Riminesi, Italian National Research Council – Institute of Heritage Science (CNR-ISPC), Sesto Fiorentino (FI), Tuscany, Italy</p>	Italy	IRT survey of historic building façades for focusing the diagnostics analysis	MATERIALS SCIENCE	<p>Sofia Brizzi, Italian National Research Council – Institute of Heritage Science (CNR-ISPC), Via Madonna del Piano 10, Sesto Fiorentino (FI), Tuscany, Italy</p> <p>sofia.brizzi@ispc.cnr.it</p>
21	<p>Yulia Dyakonova Advanced Research Department, State Tretyakov Gallery, Moscow, Russia</p> <p>Kirill Shumikhin, Advanced Research Department, State Tretyakov Gallery, Moscow, Russia</p>	Russia	Restoration and research of Ilya Repin's painting "Ivan the Terrible and his son Ivan on November 16, 1581" in State Tretyakov Gallery	MATERIALS SCIENCE	<p>Yulia Dyakonova „Advanced Research Department, State Tretyakov Gallery, Moscow, Russia</p> <p>yulia.dyakonova@gmail. Kirill Shumikhin, Advanced Research Department, State Tretyakov Gallery, Moscow, Russia</p> <p>shumikhinkv@gmail.com</p>

Visit to Palazzo Spinelli's Restoration Laboratories. Address - via delle Casine 21R . H. 15.30 - CHAIR: Catherine Burnett - International Projects and Cooperation - Palazzo Spinelli

POSTER SESSION. Palazzo della Borsa Camera di Commercio di Firenze - 16 – 18 MAY 2022

82/125	Rocco Furferi, Department of Industrial Engineering, University of Florence, Italy	Italy	Innovative technologies for Virtual Museums: an overview	ICT and Digital Heritage	Rocco Furferi, Department of Industrial Engineering, University of Florence, Italy rocco.furferi@unifi.it
96/131	Luca Puggelli, Department of Industrial Engineering, University of Florence Rocco Furferi, Department of Industrial Engineering, University of Florence Lapo Governi, Department of Industrial Engineering, University of Florence Chiara Santarelli, Department of Industrial Engineering, University of Florence Yary Volpe, Department of Industrial Engineering, University of Florence	Italy	ARTE - Augmented Readability Tactile Exploration: the tactile bas-relief of Piazza San Francesco painting	ENGINEERING	Rocco Furferi, Department of Industrial Engineering, University of Florence
14	Daniela Rizzo, Department of Cultural Heritage, University of Salento, Lecce, Puglia, Italy Francesco Montagna, Department of Innovation Engineering, University of Salento, Lecce, Puglia, Italy Elisabetta Palumbo, Institute of Sustainability in Civil Engineering, RWTH Aachen University, Germany Daniela Fico, Department of Innovation Engineering, University of Salento, Lecce, Puglia, Italy Valentina De Carolis, Department of Innovation Engineering, University of Salento, Lecce, Puglia, Italy Raffaele Casciaro, Department of Cultural Heritage, University of Salento, Lecce, Puglia, Italy Carola Esposito Corcione, Department of Innovation Engineering, University of Salento, Lecce, Puglia, Italy	Italy Germany	From Apulian wastes to original design objects: Fused Filament Fabrication (FFF) as a sustainable solution	ENGINEERING	Daniela Rizzo, Department of Cultural Heritage, University of Salento, Lecce, Puglia, Italy daniela.rizzo@unisalento.it