



www.aipnd.it/art2017

ORGANIZING COMMITTEE

Papponetti Mario

AIPnD President, Brescia (Italy)

Canova Aldo

AIPnD Scientific Council President

Hamdan Nasser

American University of Sharjah (UAE), Physics Department

Aslan Zaki

Regional Representative of ICCROM for the Arab States and Director of ICCROM-ATHAR Regional Conservation Centre in the U.A.E.

TECHNICAL SECRETARIAT

Michele Carboni

AIPnD Council Member

Giacinto Porco

AIPnD Honorary President

Ezio Tuberosa

AIPnD General Secretary

Hussain Alawadhi

Director, Center for Advanced Materials Research, University of Sharjah

Pia Anderson

American University of Sharjah

Najeh Jisrawi

Center for Advanced Materials Research, University of Sharjah

SCIENTIFIC COMMITTEE

Abd El Hady Mohamad

Cairo University, (Egypt)

Attaelmanan A. Gaffar

University of Sharjah (UAE)

Beech Mark

Abu Dhabi Tourism and Cultural Authority (U.A.E.), Ministry of Tourism and Antiquities (Jordan)

Boke Hasan

Izmir Institute of Technology (Turkey)

Cappabianca Claudio

AIPnD, Italian Society for Non-destructive Testing

Felicetti Roberto

Dipartimento di Ingegneria Civile e Ambientale, Politecnico di Milano

Fukunaga Kaori

National Institute of Information and Communications Technology, Tokyo Koganei (Japan)

Giovagnoli Annamaria

Istituto Superiore per la Conservazione e il Restauro, Roma

Jamhaw Monther Dahash

Ministry of Tourism and Antiquities (Jordan)

Jasim Sabah

Sharjah Department of Antiquities (UAE)

Maev Roman

University of Windsor, Ontario (Canada)

Menu Michel

C2RMF Centre de Recherche et de Restauration des Musées de France, Paris (France)

Nabah Bassam Abu

American University of Sharjah (U.A.E.)

Ridolfi Stefano

ARS Mensurae, Roma (Italy)

Serrano Jesús

AEND, Spanish NDT Society, Madrid (Spain)

Tiano Piero

Istituto per la Conservazione e la Valorizzazione dei Beni Culturali, Sesto Fiorentino, Firenze (Italy)

Tsukada Masahiko

TUA, Tokyo University of the Arts (Japan)

Wadum Jorgen

Statens Museum for Kunst, Copenhagen (Denmark)

Zakaria Amer

American University of Sharjah (U.A.E.)

ORGANIZING SECRETARIAT

AIPnD, Italian Society for Non-destructive Testing Monitoring Diagnostics (Italy)

Marta Corsini - Clementina Rizzetti

art17@aipnd.it - www.aipnd.it/art2017/

- IDN 1 **INVESTIGATIONS ON ANCIENT POTTERY SAMPLES BY PIXE USING PROTONS OF ENERGY 2.5 MEV**
Daisy Joseph
- IDN 2 **WEATHERING OF MONUMENTAL MARBLE IN EGYPT**
Mohamed Abdel-Hady Mohamed
- IDN 3 **CHARACTERIZATION ON ROMAN MOSAIC GLASS FOUND IN THAILAND**
Pisutti Dararutana, *Krit Won-in*
- IDN 4 **ADVANCED SOLUTIONS FOR ART AND ANTIQUITIES ACCOUNTING AND PROTECTION**
Dmitry Gavrilov, *Thiago Toledo, Eric Matthews, Roman Gr. Maev*
- IDN 5 **NEW CONCEPT OF ART AND ANTIQUITIES IDENTITY PROTECTION BASED ON HIGHLY SECURE DIGITAL IMAGE AND SIGNAL PROCESSING ALGORITHMS. A REVIEW**
Roman Maev, *Jason Taylor, Dmitry Gavrilov, Spike Bucklow*
- IDN 7 **APPLICATIONS OF A FREQUENCY RESOLVED ACOUSTIC IMAGING TECHNIQUE IN THE AUDIO FREQUENCY INTERVAL: FRESCOES, CERAMICS, PANEL PAINTINGS**
Paola Calicchia
- IDN 8 **IMPROVED HIGH-RESOLUTION 3D MODELLING OF CULTURAL HERITAGE OBJECTS BY COMBINING 2D RASTER IMAGES WITH ROUGH DEPTH INFORMATION: HORIZON 2020 SCAN4RECO PROJECT**
Artur Krukowski, *Emmanouela Vogiatzaki*
- IDN 9 **INTERNAL STRUCTURE OBSERVATION OF WALL PAINTINGS BY MICROWAVE AND TERAHERTZ**
Kaori Fukunaga
- IDN 11 **DETECTION OF SIGNS AND INTERNAL STRUCTURE OF ANTIQUE OBJECTS BY RADIOGRAPHY AND IMAGE PROCESSING TECHNIQS**
Amir Movafeghi, *Effat Yahaghi, Nouredin Mobammadzadeh, Bebrouz Rokrok*
- IDN 12 **STUDY ON THE INFLUENCE OF DEFECTS ON THE STRENGTH OF METALLIC HISTORICAL TIE-RODS**
Michele Carboni, *Andrea Gianneo, Roberto Felicetti, Mariagrazia Bellanova*
- IDN 13 **EDDY CURRENT NON-DESTRUCTIVE TESTING OF METALLIC HISTORICAL TIE-RODS**
Mariagrazia Bellanova, *Roberto Felicetti, Michele Carboni, Andrea Gianneo*
- IDN 14 **PLASTER CHARACTERISTICS OF ÇİNLİ BATH BUILT BY GREAT ARCHITECT SİNAN IN İSTANBUL**
Emre İpekci, *Elif Uğurlu Sağın, Hasan Böke*
- IDN 15 **A MULTI-ANALYTICAL APPROACH FOR THE CONSERVATION OF THE MATERA CATHEDRAL (ITALY)**
Piero Tiano, *Maria Perla Colombini, Alessia Andreotti, Silvia Vettori, Barbara Sacchi, Laura Rampazzi*
- IDN 16 **NON-INVASIVE ANALYTICAL SURVEY OF THE PERMANENT COLLECTION IN THE NORTH CAROLINA MUSEUM OF ART**
Donata Magrini, *Susanna Bracci, William Brown, Adele De Cruz, Gwénaëlle Kavich, Maria Perla Colombini*
- IDN 17 **MINERALOGICAL- CHEMICAL INVESTIGATIONS ON ANCIENT GLASS FRAGMENTS FROM ISTAKHR (5ST AD) BY USING SEM-EDS**
Farahnaz Bayat Nejad, *Mohammadamin Emami*
- IDN 18 **FROM RAW TO FINISHED: A MICROANALYTICAL STUDY OF METAL PRODUCTION AT SARUQ AL-HADID**
Kristina Franke, *Lloyd Weeks, Charlotte Cable, Ivan Stepanov, Rashad Bukhasb, Yaqoub Al Ali, Mansour Boraik, Hassan Zein, Nihad Hendarwi*
- IDN 19 **REMBRANDT'S „OLD WOMAN PRAYING“ – A LOOK BELOW THE SURFACE USING XRF-MAPPING**
Katharina Uhlir, *Michele Gironda, Luca Bombelli, Gabriele Groschner, Martina Griesser*
- IDN 20 **MICRO-INVASIVE DEPTH PROFILE ANALYSIS OF ANCIENT COINS BY LASER-INDUCED BREAKDOWN SPECTROSCOPY: THE CASE OF Hg LAYERS ON SASANIAN COINS**
Katharina Uhlir, *Rosalba Gaudiuso, Martina Griesser, Alessandro De Giacomo*
- IDN 21 **NEUTRON RADIOGRAPHY AS A NON-DESTRUCTIVE TESTING METHOD IN CULTURAL HERITAGE**
Amir Movafeghi, *Nouredin Mobammadzadeh, Mohammad Choopan Dastjerdi, Bebrouz Rokrok*
- IDN 22 **DIGITAL RADIOGRAPHY NON-DESTRUCTIVE TESTING METHOD FOR CULTURAL HERITAGE**
Amir Movafeghi, *Nouredin Mobammadzadeh, Bebrouz Rokrok, Effat Yahaghi*
- IDN 23 **IN-SITU MECHANICAL STUDIES OF LINED CANVAS PAINTING IN ENGLISH HISTORICAL HOUSES EXPOSED TO UNCONTROLLED ENVIRONMENT**
Vladimir Vilde, *David Thicket, David Hollis, Emma Richardson*
- IDN 24 **BIODETERIORATION PHENOMENA OF BASARABI CHURCHES, ARCHAEOLOGICAL SITE - SCIENTIFIC AND CULTURAL ASPECTS**
Daniela Turcanu-Carutiu, *Rodica-Mariana Ion, Radu-Claudiu Fierascu, Gheorghe Carutiu, Razvan Theodorescu, Virginia Schroder*

- IDN 25 **DETECTION AND VITALITY ASSESSMENT OF BIODETERIOGENS ON EXCAVATED MONUMENTS AND RUINS IN POMPEII USING AN HYPERSPECTRAL IMAGING TOOL**
C. Riminesi, O. Cuzman, L. Chiarantini, R. Manganelli Del Fa, B. De Nigris, B. Salvadori, B. Sereni, P. Tiano
- IDN 26 **MONITORING OF CULTURAL HERITAGE DECAY IN ROME: ANALYSIS OF BLACKENING AND EROSION PHENOMENA**
Raffaella Gaddi, Mariacarmela Cusano, Patrizia Bonanni, Carlo Cacace, Annamaria Giovagnoli
- IDN 27 **VIDEOR SERVICE - CULTURAL HERITAGE RISK ASSESSMENT AND MONITORING ON THE WEB**
Nicole Dore, Antonio Monteleone, Carlo Cacace, Annamaria Giovagnoli
- IDN 28 **ANALYSIS OF THE CONSTITUENTS MATERIALS: CONSERVATION AND RESTORATION OF THE TEMPLE OF THE SUN GOD SHAMASH AT ED DUR, UMM AL QUWAIN, UNITED ARAB EMIRATES**
Adel El-Turke, Simon Warrack, Zaki Aslan, Alya Al Gbafli, Anwar Sabik, Justyna Hrabka, Fatma Marri, Rania Hussein, Meqdad Aboelgheed, Hussain Alarwadhi, Mohamed Shameer
- IDN 29 **THE DIAGNOSTIC OF CULTURAL HERITAGE: ACTIVE AND HISTORICAL RESEARCH DISCIPLINE AND GUARDIANSHIP. THE CASE OF THE "CENACOLO" BY GHIRLANDAIO OF THE BADIA OF PASSIGNANO IN FLORENCE**
Eduardo Caliano, Nicolino Messuti, Carmine Napoli
- IDN 30 **NDT FOR THE CHARACTERIZATION OF A MONUMENTAL BUILDING OF THE FIRST HALF OF THE 20TH CENTURY: THE OSSUARY TEMPLE OF BASSANO (ITALY)**
Dario Foppoli, Alessio Caligari
- IDN 31 **A NEW PROCEDURE TO PRODUCE ELEMENTAL MAPS BY COMBINING XRF DATA TO OTHER TYPES OF IMAGES**
J. Daniel Martín-Ramos, J. Luis Vilchez, Giacomo Chiari
- IDN 32 **TAPHONOMY AND DIAGENESIS OF SKELETAL REMAINS OF A PREHISTORIC WOMAN FOUND IN A WATERLOGGED CAVE SYSTEM IN YUCATAN, MEXICO**
Diana Arano Recio, Patricia Quintana Owen, Andrea Cucina, Vera Tiesler, Julio Chi Keb, Pilar Luna Erreguerena, James Chatters
- IDN 33 **THE USE OF LIME MORTARS AND MINERAL COLORS IN THE SCULPTURAL MAYAN FAÇADE OF CHICANNÁ, CAMPECHE, MEXICO**
Diana Arano Recio, Félix Camacho Zamora, Daniel Salazar Lama, Leticia Jiménez Hernández, Yolanda Espinosa Morales, Javier Reyes Trujeque, Patricia Quintana Owen
- IDN 34 **THE SALA GRANDE OF PALAZZO VECCHIO, FIRENZE: AN INSIGHT INTO ITS WALLS BY NON-DESTRUCTIVE ANALYSIS**
Emanuela Ferretti, Massimo Coli, Lorenzo Innocenti, Marta Castellini, Paolo Papeschi
- IDN 35 **INTEGRATING MODAL ANALYSIS AND SEISMIC INTERFEROMETRY FOR FULL STRUCTURAL DYNAMIC RESPONSE FROM AMBIENT VIBRATION: THE GIOTTO'S BELL TOWER, FIRENZE (ITALY)**
Giorgio Lacanna, M. Rippepe, M. Coli, R. Genco, E. Marchetti
- IDN 36 **GPR INVESTIGATION ON THE MASONRY OF THE BRUNELLESCHI'S CUPOLA, FLORENCE (ITALY)**
Massimo Coli, Paolo Papeschi, Francesco Boscagli, Lorenzo Innocenti, Beatrice Agostini
- IDN 37 **EVIDENCES FOR EXTENSIVE USE OF EGYPTIAN BLUE IN EARLY MIDDLE AGES PAINTINGS FROM CASTELSEPRIO (LOMBARDY)**
Giacomo Chiari, Vincenzo Gheroldi, Marco Nicola, Maurizio Aceto
- IDN 38 **A THERMODYNAMIC APPROACH TO THE MICROCLIMATE ENVIRONMENT OF MUSEUMS**
Giuseppe Maino
- IDN 39 **NON-DESTRUCTIVE LASER BASED TECHNIQUES FOR BIODEGRADATION ANALYSIS IN CULTURAL HERITAGE**
Luisa Caneve, Massimiliano Guarneri, Antonia Lai, Barbara Mazzei, Valeria Spizzichino
- IDN 40 **A MULTIDISCIPLINARY NON-DESTRUCTIVE STUDY OF ANCIENT PIPE ORGAN FRAGMENTS**
Daniela Di Martino, E. Perelli Cippo, W. Kockelmann, A. Scherillo, T. Minniti, R. Lorenzi, M. Malagodi, T. Rovetta, G.V. Fichera, M. Albano, G. Gorini
- IDN 41 **A NEW BASE FOR MICHELANGELO'S PIETA' RONDANINI. RESEARCH, DESIGN AND MONITORING**
Elisabetta Giani, Alfredo Cigada, Giuseppina Fazio, Giovanna Mori, Lucia Toniolo, Sabina Vedovello, Emanuele Zappa
- IDN 42 **DEVELOPMENT OF AN "ER" NON-DESTRUCTIVE AND "IN SITU" SENSOR FOR THE MONITORING OF METAL CORROSION AND CONSERVATIVE ENVIRONMENTS**
Liliana Gianni, Stefano Ridolfi, Giovanni Ettore Gigante
- IDN 43 **CULTURAL HERITAGE AND ITS FRAMEWORK: ANALYSIS AND EVALUATION BY INFRARED AND ENVIRONMENTAL MONITORING**
M. Volinia, L. Tomassone, M. Giroto
- IDN 44 **DEPTH DIAGNOSTIC ANALYSIS FOR PRESERVATION OF THE DECORATED SURFACES AND OF THE STUCCOS OF THE SANT'UBERTO CHURCH IN VENARIA REALE**
L. Appolonia, E.E. Barbero, M.C. Canepa, M. Cardinali, M. Giroto, A. Piccirillo, V. Tasso, M. Volinia
- IDN 45 **NON-DESTRUCTIVE CHARACTERIZATION OF FRESCOS IN THE ETRUSCAN TOMB OF BLUE DEMONS (ITALY) BY MEANS OF SPECTROSCOPY TECHNIQUES**
Adriana Puiu, Francesco Colao, Salvatore Almagiva, Roberta Fantoni, Gianluca Verona-Rinati, Lucina Giacomini, Martina Romani

- IDN 46 **TO LOAN OR NOT TO LOAN? INVESTIGATIONS AND CONTROLS FOR AN OBJECTIVE RISK ASSESSMENT FOR ARTEFACTS TRANSPORTATION**
Giuseppina Fazio, *Massimo Corsetti, Elisabetta Giuni, Chiara Petrioli*
- IDN 47 **NON-DESTRUCTIVE EVALUATION OF ILLUMINATIONS: THE CASE OF THE LIBER REGULAE S. SPIRITUS DE SAXIA**
Cristina Cicero, *Marco Marinelli, Fulvio Mercuri, Noemi Orazi, Stefano Paoloni, Alessandra Pasqualucci, Martina Romani, Alessandra Terrei, Gianluca Verona Rinati, Ugo Zammit*
- IDN 48 **ASSESSMENT OF EXPERIMENTAL PROCEDURES FOR IN SITU, NON-INVASIVE CORROSION MONITORING BY ELECTROCHEMICAL TECHNIQUES**
Chiara Petiti, *Bruna Mariani, Davide Gulotta, Paola Letardi, Maria Agnese Zappa, Sara Goidanich*
- IDN 49 **EVALUATION OF ADVANCED NANOPOLYMERS FOR PROTECTION AND CONSOLIDATION OF ARTWORKS VIA NON-DESTRUCTIVE TECHNIQUES**
Mariagrazia Tortora, *Cinzia Casieri, Giorgio Cerichelli, Marco Chiarini, Chiara Gandolfi, Giovanna Scicolone*
- IDN 50 **UV-VIS-NIR IMAGING IN REFLECTANCE AND PHOTO-INDUCED LUMINESCENCE MODES FOR THE ANALYSIS OF THE PAINTING**
Vittorio Barra, *Nicole de Manincor, Angela Cerasuolo, Claudia Daffara*
- IDN 51 **USING MICRO HOT TABLE METHOD FOR EVALUATION OF ARCHAEOLOGICAL LEATHER**
Gabriela Vyskocilova
- IDN 52 **ON THE USE OF TOTAL REFLECTION FOURIER TRANSFORM INFRARED MICROSCOPY (TR-MFTIR) FOR THE CHARACTERIZATION OF NATURAL PATINAS ON OUTDOOR BRONZE MONUMENTS**
Emilio Catelli, *Yiming Jia, Emilio Catelli, Giorgia Sciotto, Silvia Prati, Rocco Mazzeo*
- IDN 53 **TOOLS AND STRATEGIC RESOURCES FOR THE PROTECTION AND CONSERVATION OF THE CULTURAL HERITAGE BY THE APPLICATION OF NON-DESTRUCTIVE TESTS AND ANALYTICAL STUDIES**
Alba Obrutsky
- IDN 54 **UNLOCKING THE POTENTIALS OF NON-INVASIVE ANALYSES: EXTENSIVE P-XRF CAMPAIGNS ON PIEDMONT COLLECTIONS ALLOW DETECTING UNCOMMON COMPOSITIONS OF MEDIEVAL LIMOGES ENAMELS**
Angelo Agostino, *Gaia Fenoglio, Maurizio Aceto, Simonetta Castronovo, Lorenza Operti*
- IDN 55 **A NEREID IN THE GALLERY. ANALYTICAL TECHNIQUES REVEAL THE SECRETS OF A CARTHAGINIAN SILVER DISH SHEDDING LIGHT ON THE EARLY BYZANTINE EMPIRE STAMP SYSTEM**
Gaia Fenoglio, *Maurizio Aceto, Fabrizio Crivello, Lorenza Operti, Angelo Agostino*
- IDN 56 **MICROANALYSIS AND CONSERVATION OF OLD PARCHMENT AND LEATHER BOOKBINDINGS**
Elena Badea, *Cristina Carșote, Madalina Ignat, Emanuel Hadâmbu, Lucreția Miu, Giuseppe Della Gatta*
- IDN 57 **DOSE-DEPENDENT EFFECTS OF GAMMA IRRADIATION ON VEGETABLE LEATHER PHYSICAL-CHEMICAL PROPERTIES AND STRUCTURE**
Cristina Carșote, *Elena Badea, Claudiu Șendrea, Mădălina Ignat, Lucreția Miu*
- IDN 58 **NON INVASIVE SPECTROSCOPIC AND IMAGING TECHNIQUES FOR THE INVESTIGATION OF ANCIENT AND MODERN PIGMENTS USING IR FALSE COLOR, XRF, FORS AND RAMAN**
Siham Younsi, *Stefano Ridolfi, Giovanni Ettore Gigante, Nicola Schiavon*
- IDN 59 **LOW COST, BATTERY POWERED, ARDUINO™ DRIVEN DATA LOGGER FOR IN SITU MOISTURE MEASUREMENTS IN CULTURAL HERITAGE**
Md. Ashiqur Rahman, *Stefano Ridolfi, Giovanni Ettore Gigante, Nick Schiavon*
- IDN 60 **COMPUTED X-RAY TOMOGRAPHY APPLIED TO BOWED STRINGED INSTRUMENTS**
Marco Moscatti, *Francesco Piasentini*
- IDN 61 **THERMO-HYGROMETRIC MONITORING FOR PAINTINGS CONSERVATION. AN ITALIAN REAL CASE STUDY**
Giorgia Spigliantini, *Valentina Fabi, Stefano Paolo Corgnati*
- IDN 62 **GPR INVESTIGATION ON THE MASONRY OF THE BRUNELLESCHI'S CUPOLA, FLORENCE (ITALY)**
Coli Massimo, *P. Papeschi, F. Boscagli, L. Innocenti, B. Agostini*
- IDN 63 **NON-DESTRUCTIVE INVESTIGATION OF ORGANIC COATINGS ON METAL OBJECTS USING ACOUSTIC MICRO TOMOGRAPHY**
Georgios Karagiannis, *Georgios Apostolidis, Andrea Cagnini, Monica Galeotti, Simone Porcinai*
- IDN 64 **A NEW KIND OF DEVICE WHICH IS USING A GEOENERGETIC FIELD AND ZERO-POINT ENERGY TO DEHYDRATE WALLS AFFECTED BY RISING DAMP WITHOUT DISTURBING ANY WALLS**
W. Mohorn, *F. Di Paola*