

CONTENTS

Message of the 7th European Conference "Safeguarded Cultural Heritage – Understanding & Viability for the Enlarged Europe" held in Prague May 31st – June 3rd 2006 and organized by the Czech Academy of Sciences with the support of the European Commission

Environmental technologies and pollution prevention A. Tilche	3
Session I	
Innovative applications and new ideas: movable heritage	
Bacterial destruction of wooden cultural heritage Ch.G. Björdal, T. Nilsson and R. Klaassen	9
New restoration technique for waterlogged archaeological wood R. Ippoliti, F. Cioffi and M.P. Contento	17
A multi analytical approach to determine organic dyes in tapestries A. Andreotti, M.P. Colombini, I. Degano, J. Lucejko, C. Innocenti and G. Bacci	21
A methodology for the identification of organic materials in wall paintings F. Piqué	31
An early warning system for organic materials in museums, historic buildings and archives T. Grøntoft, E. Dahlin, J.F. Henriksen, S. Rentmeister, M. Hanko, J. Heinze, J. Taylor, N. Blades and M. Cassar	41
Dependency modelling for cultural heritage J. Taylor, N. Blades and M. Cassar	51
Impacts of crushed rock quarries on historic villages and cultural landscapes N. Blades, G. Marchant and P. Greening	61
Impact of moisture sorption stabilization as a preventive conservation approach P. Zitek, T. Vyhlídal and I. Kopecká	71
Developing innovative portable diagnostic techniques and approaches for the analysis of metal artefacts from museum collections V. Argyropoulos, M. Giannoulaki, D. Anglos, P. Pouli, M.A. Harith, A. Elhassan, A.-G. Karydas, Ch. Zarkadas, V. Kantarelou, A. Arafat and N. Haddad	79
Corrosion of lead and lead-tin alloys of organ pipes in Europe C.J. Bergsten	91
Radiofrequency identification for movable heritage management A. Canals and A. Salvador	97
A new non-contact fingerprinting method for the identification and protection of objects of art and cultural heritage against theft and illegal trafficking W. Wei, P. Boher, M. Elias, J. Frohn, K. Martinez and S. Sotiropoulou	103
Development of a new antigrffiti system, based on traditional concepts, preventing damage of architectural heritage materials O. García, I. Rodríguez-Maribona, A. Laschewsky, A. Dworak, D. Hoffmann, Y. Vanhellemont, C. Giavarini, J. Strupi Suput, H. Boron, M.P. Revilla and B. Brea	111
Session II	
Innovative applications and new ideas: immovable heritage	
Mapping climate change and cultural heritage C. Sabbioni, P. Brimblecombe, A. Bonazza, C.M. Grossi, I. Harris and P. Messina	119

Salt crystallization and damage on monument: the issue to isolate or to eliminate entrapped sea-salts F. Zezza	125
Hygric dilation behaviour of NaCl contaminated lime-cement mortar B. Lubelli, R.P.J. van Hees and H.P. Huinink	141
Archaeometry and the Nabatean mortars R. Hamid, W. Gaggl, K. Bayer, T. Bayerova, P. Justa, I. Omeri and B. Nabulsi	153
A proposal for test procedure for injection products against rising damp Y. Vanhellemont, H. De Clercq and A. Pien	165
Assessing compatibility in conservation of masonry structures on archaeological sites J.D. Rodrigues and A. Grossi	171
Effects of the weathering on stone materials: assessment of their mechanical durability P. Tiano	181
How to assess the efficiency of a stone consolidant – the example of the Bologna Cocktail C. Moreau, S. Simon, S. Haake and M. Favaro	197
BIODAM – Practicability studies, application experience and succes control of polyphasic approaches to inhibit subaerial biofilm growth and damage on buildings including spin-off to end-users W.E. Krumbein, A.A. Gorbushina, H.L. Alakomi, C. McCullagh, I. Fortune, J. Marquardt, P. Robertson, M. Saarela, J. Valero, M. Vendrell and M. Young	207
Biotechnologies and cultural heritage F. Cappitelli, G. Ranalli, E. Zanardini and C. Sorlini	209
Tools for assessment of corrosion and soiling in the multi-pollutant situation J. Tidblad and V. Kucera	211
The change of atmospheric composition – new findings on its impact on immovable cultural heritage K.H. Becker, J. Kleffmann, R. Kurtenbach, P. Wiesen, U. Brinkmann and Th. Schumacher	221
Foundation re-use as a mechanism for the preservation of buried cultural heritage in urban centres: how new engineering research helps limit archaeological damage J. Williams and A. Butcher	231

Session III

Innovative applications and new ideas: cities, villages and landscapes (including archaeology)

Risk based approach to cultural heritage buildings P. Vandeveld	243
Reducing the seismic vulnerability of cultural heritage buildings P.B. Lourenço, P. Roca, C. Modena and D.V. Oliveira	251
Earthquake protection of historical buildings by reversible mixed technologies: the PROHITECH project F.M. Mazzolani	263
Natural multi-hazard and building vulnerability assessment in the historical centers: the examples of San Giuliano di Puglia (Italy) and Valparaiso (Chile) M. Indirli, E. Valpreda, G. Panza, F. Romanelli, L. Lanzoni, S. Teston, M. Berti, S. Di Bennardo and G. Rossi	275
Retention and conservation or demolition and modernisation – that is the question? A case study from Darwen, a town to the north of Manchester UK B. Clancy	285

Research based municipal policy saves European cultural heritage: the case study of Brandys nad Labem-Stara Boleslav in Czech Republic G. Carrai	297
From cultural heritage to sustainability: architecture and the nature-city A. Sichenze, I. Macaione, M.R.A. Piro, M. Lavecchia, C.A. Fosci, M.I. Insetti	303
Socio-economic impacts of cultural heritage assets D.D. Rypkema	315
Elements to take into account in order to reconcile economic benefits and quality of life in a pro-active management of the impacts of cultural tourism E. Dumont	321
A study on the method for extraction of tourism-impact on a historical townscape: a case of the old town of Lijiang, Yunnan Province, China Y. Fujiki	335
Tourism and multicultural heritage: tools for participation by low-income residents S. Shaw, J. Forrester and J. Karmowska	345
A meeting point for diversity: research and valorisation on cultural landscapes in North Western Iberian Peninsula M.R. del Árbol, A. Orejas and F.-J. Sánchez-Palencia	355
Application of an air pollution modelling tool to cultural heritage buildings N. Blades	363
The APPEAR method for guiding the valorisation of urban archaeological sites J. Teller, A. Warnotte, M. Tinant, P. Hupet and V. Wilson	373

Session IV

Research infrastructure – sustainable scientific impact of EC research project on movable and immovable heritage

Recent developments of the heritage and archaeology liaison office at the SOLEIL synchrotron L. Bertrand, J. Doucet and D. Raoux	379
Transnational Access to the Louvre accelerator facility (AGLAE) L. Beck, J.-C. Dran, Th. Guillou, M. Menu, B. Moignard, L. Pichon, S. Roehrs, J. Salomon and Ph. Walter	385
MOLAB (Mobile Laboratory): a Transnational Access service for in-situ non-invasive studies of the European cultural heritage B.G. Brunetti, D. Pinna, M. Matteini, C. Miliani and L. Pezzati	395
Wind tunnel modelling in conservation S. Pospíšil, M. Drdäcký, Z. Slížková, J. Lesák and D. Knotková	397
CEN/TC 346 Conservation of cultural property V. Fassina	409
Database management and innovative applications for imaging within museum laboratories G. Aitken, Ch. Lahanier, R. Pillay and D. Pitzalis	419
Fragmentary mural paintings – possibilities of aesthetic presentation and exemplary communication S. Fundel, M. Hess, R. Drewello and M. Mayer	427
Isotope (sulphur, oxygen, boron) tracing of internal or external origin of sulphates involved in the degradation of French stone monuments (BOS project) W. Kloppmann, V. Vergès-Belmin, C. Gosselin, O. Rolland, Ph. Bromblet, J.-M. Vallet and E. Dotsika	437

Life expectancy prediction of solid materials using chemiluminescence to characterize oxidative reactions and model-free simulation based on experimental data F. Käser, B. Roduit and S. Wuelfert	441
Enhanced optical methods for analysis of historical objects J. Bryscejn, M. Drdáký, J. Jakúbek, J. Valach, D. Vavřík and P. Weiss	453
Large scale investigation of bronze archaeological artefacts from Mediterranean basin G.M. Ingo, E. Angelini, P. Vassiliou, V. Gouda, M. Gener and A. Çilingiroğlu	459
Monitoring the conservation of metal objects: evaluation of a new approach A. Adriaens and M. Dowsett	469
Techniques for cultural heritage research in the Pomerania region – case studies G. Śliwiński, K. Komar, M. Jasińska, J. Bredal-Jørgensen, A. Kamińska and M. Sawczak	479

Session V

Impact of EU policies and directives on European cultural heritage diversity and sustainable safeguarding; impact of cultural heritage research result on society and support for policy needs

The challenge of EU policies for cultural heritage management: what is the problem with some EU Directives? T. Nypan	493
Impact of EU directives on small enterprises acting in the cultural heritage field – monumentenwacht experience J. Akerboom	501
The preservation of the cultural heritage of property through an analysis of European regulations regarding building materials used in restoration Ch. Nesti, G.L.A. Pesce and R. Vecchiattini	505
An analyses of research projects on conservation of paper and textile artefacts of historical, cultural and artistic value financed under EU Programmes (period 1995-2004) E. Martuscelli, F. Tolve and S. Ferrara	517
Applying research results into practice in the field of repairing masonry monuments I. Papayianni	531
Towards evidence for policy development in the area of climate change and world heritage M. Cassar	535
Legal issues of the conservation restoration profession M. Martelli Castaldi and V. Negri	545
Fire loss to historic buildings I. Maxwell	551

Session VI

Coordination of national research & education

Cultural heritage related research at COST P. Świątek	561
Towards an EU-wide strategy for research into the historic environment and its sustainable management J. Fidler and J. Stevens	563
The French national research programme on sciences and conservation of the materials of the cultural heritage: results and future S. Colinart and R.-A. Lefevre	571

The Czech national research programme on cultural heritage and European integration Z. Bauerová and M. Drdácý	573
From national to European and international research and education programmes A. Moropoulou	577
Research on cultural heritage – based communication and creation models L. Chen	589
Training and research at the foundation Centro “La Venaria Reale” O. Chiantore and M. Filippi	597
Laser multitask non-destructive system for conservation diagnostic procedures V. Tornari, E. Bernikola, Y. Orphanos, C. Falldorf, R. Klattenhof, E. Esposito, A. Agnani, R. Dabu, A. Stratan, A. Anastassopoulos, D. Schipper, J. Hasperhoven, M. Stefanaggi, H. Bonnici and D. Ursu	599
European Network for Conservation-Restoration Education – ENCoRE: the role of education in the implementation of European cultural heritage research R. Larsen	607
The SAHC (Structural Analysis of Historic Constructions) International Master Course P. Laurenço, M. Drdácý, P. Kabele, C. Modena, P. Roca	615

Session VII

Challenges of European cultural heritage research

Report on Session VII – “Challenges of European cultural heritage research” M. Chapuis	619
Cultural heritage related research and the European construction technology platform Z. Bittnar and J. Rodríguez	621
Focus Area Cultural Heritage as a part of the European construction technology platform R. Žarnić and P. Eynaud de Faÿ	627
Prospects for international cultural heritage research cooperation P. Roca	635
International collaboration on natural hazards expected for the 7 th framework program H. Wenzel	641
Sustainable historical cities – worldwide challenge for interdisciplinary international research D. Ricard	653
Research for historic cities J.-L. Luxen	657
Challenges of European cultural heritage research: a viewpoint from civil society E. de Merode	659
Future cooperation of ICCROM with the European Union J. L. Pedersoli	663
European collaboration of the Getty Conservation Institute T. Whalen	665

Index of authors

Introduction – General reports

Poster session opening speech V. Jehlička	669
Cities, villages and landscapes J. Teller	671

Posters

Papyrus and InkCor go plastic M. Strlič, J. Kolar, D. Pucko	681
Italian diagnostics for a European project R. Bellucci, D. Bencini, C. Daffara, R. Fontana, C. Frosinini, M. Materazzi, L. Pezzati and P. Poggi	685
A combined GC-MS analytical procedure for the characterisation of lipid, waxy, resinous and proteinaceous materials in a unique paint micro-sample A. Andrcotti, I. Bonaduce, M.P. Colombini, G. Gautier, F. Modugno and E. Ribechini	689
Portable X-ray, image capture, storage and enhancement P. Weiss	693
A novel method for non-destructive stratigraphy determination of artworks using acoustic microscopy and UV/VIS/nIR spectroscopy G. Karagiannis, Ch. Salpistis and G. Sergiadis	701
Polychromy on wooden lacunar ceiling: the case study of Bagatti Valsecchi Palace (Milan, Italy) A. Sansonetti, S. Della Torre and L. Rampazzi	705
The problem of organic materials identification in wall paintings: testing procedures E. Campani and A. Casoli	709
X-ray fluorescence analysis and its use for Czech medieval frescos T. Čechák, I. Kopecká, L. Musílek and T. Trojek	713
Deterioration factors of Coptic wall paintings in Al Qurna and Wadi El Natrun-Egypt A. Moussa, B. Christaras, J. Stratis and M. Ali	717
Fragmentary mural paintings – possibilities of aesthetic presentation and exemplary communication S. Fundel, M. Hess, R. Drewello and M. Mayer	719
Characterization, ageing and authentication of contemporary works of art: polyurethane paints and foams A. Colombini, V. Leal Romero, V. Lamothe, S. Soumireu-Lartigue and J. Antoine	723
COST Action G8: Non-destructive analysis and testing of museum objects: an overview of 5 years of research A. Adriaens	727
Laser Techniques in Conservation after COST Action G7: an effective innovation available in Europe R. Salimbeni	731
Tests of laser cleaning and diagnostics of modern paintings I. Szmelter, A. Koss, J. Marczak, R. Ostrowski, A. Rycyk, W. Skrzeczanowski, A. Sarzyński and M. Strzelec	735
Laser multitask non destructive technology in conservation diagnostic procedures V. Tornari, I. Bernikola, C. Falldorf, E. Esposito, R. Dabu, K. Bolas, D. Schipper, M. Stefanaggi, H. Bonnici and D. Ursu	739

SP Chemistry and Materials Technology: laboratory resource for cultural heritage protection studies S. Langer	743
DE-MS and GC/MS to characterise triterpenoid resinous materials from archaeological findings M.P. Colombini, F. Modugno and E. Ribechini	747
Assessing the preservation state of large collections: SurveNIR project M. Strlič, J. Kolar, T. Trafela, D.A. Lichtblau, M. Anders, G. de Bruin, T. Steemers, B. Knight, G. Martin, J. Palm, N. Selmani and M.Ch. Christensen	751
Use of thermal, spectral and scanning electron microscopy methods to assess the damage of Romanian heritage leather and parchment objects L. Miu, P. Budrugaec, M. Giurginca, C. Gaidau, A. Meghea, N. Badea and D. Seclaman	755
Damage assessment of parchment: thermoanalytical (macro to nanoscale) and non-invasive spectroscopic analysis M. Odlyha, C. Theodorakopoulos, J. de Groot, L. Bozec, M. Horton, Q. Wang, G.M. Foster and R. Campana	759
Improved damage assessment of parchment R. Larsen	763
PaperTreat project – preserving our paper-based collections J. Kolar, M. Strlič, T. Lojewski, J. Havermans, T. Steemers, B. Knight, J. Palm, J. Hanus, O. Perminova, T.-P. Nguyen, H. Porck and Y. de Lussenet	767
Assessment of microbiological deterioration of parchment using simple visual methods M. Součková	771
Analysis of parchment bookbindings by infrared thermography F. Mercuri, F. Scudieri, S. Paoloni, U. Zammit and M. Marinelli	775
Evaluating the condition of paper A. Balažić, J. Kolar, M. Strlič, T. Lojewski, D. Kočar and Š. Habicht	779
Effect of stabilization procedures on wood containing paper A. Maková, B. Havlínová and L. Csefalvayová	783
MIP – three years networking J.B.G.A. Havermans	787
Application of EPR spin trapping technique in the investigation of radical intermediates involved in paper degradation L. Csefalvayová, V. Brezová and B. Havlínová	791
XANES and Moessbauer analysis of Fe valence in iron gall inks on paper I. Arčon, J. Kolar, D. Hanžel, M. Strlič and A. Kodre	795
Molecular tools to identify non-cultivable microorganisms involved in biodeterioration of historic paper material A. Michaelsen, F. Pinzari, K. Ripka, W. Lubitz and G. Pinar	799
Damage assessment in model and historical tapestries by fourier transform infra-red spectroscopy (ATR-FTIR) M. Odlyha, C. Theodorakopoulos and R. Campana	803
Heat flow measurements on historical materials P. Meinschmidt, J. Aderhold and V. Märgner	807
Prevention of mould growth and moisture related damages on indoor cultural heritage by a suitable temperature and humidity regulation strategy R. Kilian, M. Krus and K. Sedlbauer	811

Monochromatic light and portable spectroradiometry for the conservation of stone monuments affected by phototrophic micro-organisms	815
P. Albertano, L. Bruno, S. Piermarini and S. Bellezza	
BIOBRUSH – scientific research on bioremediation and its potential for conservation practice on stone monuments	819
E. May	
The bioprotection project on the “Madara Horseman” (Bulgaria) – bioremedial techniques in the conservation of stone monuments	823
Th. Warscheid, G. Oriol, E. von Plehwe-Leisen and V. Tudorov	
Fluorosilicates (“fluats”) used in the past in the conservation of stone in Central Europe	827
I. Kopecká, V. Nejedlý, L. Kopecký and J. Novotný	
Tests of some antigraffiti systems for preservation of sandstone monuments	831
I. Maxová, R. Šlesinger and O. Kubová	
Experimental analysis of coupled water and salt transport in historical sandstone	835
L. Fiala, Z. Pavlík, M. Jiříčková, J. Maděra and R. Černý	
Cultural heritage weathering problem in new applications of marble	839
K. Malaga, B. Schouenborg and B. Grelk	
Conservation works in tomb of Kar and Inti in South Abusír (Egypt)	843
M. Dvořák	
Decoration and production of Anasazi pre-historic ceramics	847
J. Striova, C. Lofrumento, A. Zoppi, E.M. Castellucci, F. Di Benedetto, M. Borgheresi and C. Fornasari	
The method of conservation and restoration of wooden statues from Prague Horloge	851
M. Pacáková, J. Matějčíček, D. Smetánková, I. Kopecká and A. Horynová	
The European project VIDRIO: scientific studies and new technology for the conservation of ancient stained glass windows	855
A. Bernardi	
Study of historical glass changes due to artificial alteration in acidic acid	859
E. Greiner-Wronowa, A. Pusoska and D. Piasecka	
Silver metal artifacts protection by nano-alumina pigmented coatings	863
P. Vassiliou and J. Novakovic	
Bronze archaeological objects in National museum of Prague – environmental monitoring	867
K. Kreislová, D. Knotková, B. Kreibichová, I. Kudláček and P. Korbel	
Data-base as by-product of European projects activity: the Efestus case	871
E. Angelini, G.M. Ingo, S. Grassini, T. de Caro and O. Al-Jarrah	
Specific requirements for qualification of cultural heritage artefacts marking	875
M. Ramaz, V. Le Sant and M. Dubus	
Innovative protection systems for large collection of metal artefacts conserved in the Mediterranean Basin –PROMET	879
Ch. Degrigny, V. Argyropoulos, P. Pouli, M. Grech, K. Kreislová, M. Harith, F. Mirambet, A. Karydas, A. Arafat, Z. al Saad, E. Angelini, G. Ingo, P. Vassiliou, E. Cano, N. Hajjaji, A. Almansour and P. Letardi	
Development and evaluation of new treatments for the conservation restoration of outdoor stone and bronze monuments	883
S. Bracci, B. Doherty, E. Joseph, M. Mach, M. Matteini, R. Mazzeo, C. Miliani, C.P. Nunes, D. Pinna, A.F. Pinto, S. Porcinai, J.D. Rodrigues, B. Sacchi, M. Salta and B. Salvadori	

A conservation strategy for documenting the corrosion of outdoor bronze monuments in Greece	887
V. Argyropoulos, D. Charalambous, A.V. Domi, M. Giannoulaki, Th. Karabotsos, K. Polikreti, A. Siatou, E. Drakaki, I. Sianoudis, A.G. Karydas, Ch. Zarkadas and V. Perdikatsis	
The survey approach of museum collections: a priori step in the sustainable conservation for metal objects from the Mediterranean Basin – PROMET	891
V. Argyropoulos, M. Giannoulaki, E. Angelini, O. Al-Jarrah, Ch. Degriigny, S. Golfomitsou, V. Gouda and G.M. Ingo	
New coating materials and strategies for the preservation of iron/steel industrial cultural heritage	895
P. Mottner, K. Gigant, S. Brueggerhoff, R. Turner, P. Gerber and G. Haber	
Microclimate indoor monitoring for cultural heritage	899
M. Odlyha, C. Theodorakopoulos, N. Wade, R. Campana, J.M. Slater, F. De Santis, V.A. Smith, L. Bullock, M. Rhyl Svendsen, T. Padfield, J.J. Boon and E. Ferreira	
Preventive conservation in historical buildings, museums, churches and depots	903
J. Käferhous	
Hot air heating in churches – the influence of operation mode	905
A. Troi and G. Hausladen	
Energy issues and cultural heritage – to study the interrelation is a key subject at EURAC research	909
A. Troi	
Modelling of climate change effects on historic buildings	913
N. Blades, Ph. Biddulph, M. Cassar and L. Tuffnell	
Regional assessment of the environmental impact on built cultural heritage objects in the Czech Republic	917
D. Knotková, K. Kreislová and I. Skořepová	
Outdoor monumental heritage: monitoring the effects of atmospheric pollution and evaluation of conservation treatments	921
P. Croveri and O. Chiantore	
Climate risk indices for wooden cultural objects	925
S. Jakiela, Ł. Bratasz, R. Kozłowski, K. Cieślak, Z. Olejniczak, P. Brimblecombe and I. Harris	
Temperature effects on the nave of the Saint Vitus Cathedral	929
P. Beran and J. Máca	
Development of a new antigraffiti system, based on traditional concepts, preventing damage of architectural heritage materials	933
O. García, I. Rodríguez-Maribona, A. Laschewsky, A. Dworak, D. Hoffmann, Y. Vanhellemont, C. Giavarini, J. Strupi Suput, H. Boron, M.P. Revilla and B. Brea	
Geopolymers in the reconstruction of Iwán al-Medáin in Ctesiphon, Iraq	937
T. Hanzlíček, P. Justa, I. Perna, M. Steinerová, P. Straka and J. Urban	
NAMO – Nabatean mortars: technology and application	941
W. Gaggl, W. Aloudeh, T. Bayerová, K. Bayer, R. Hamid, P. Justa, A. Mhanna, B. Nabulsi, I. Omeri and F. Sarraf	
St. Alessandro church at Lasnigo (Como, Italy) – Application of a conservation concept to the original and repair mortars of the Romanesque bell tower	945
G. Cavallo, A. Jornet, G.M. Manvati and R. Spreafico	
Traditional method of lime mortar preparation – scientific description	949
D. Michoinová	

Roman cement – a binder with history and future R. Kozłowski and R. Vyskočilová	953
Historic mortars – inspiration for high performance restoration materials M. Drdácý, Z. Slížková, J. Válek, A. Zeman, D. Michoinová, L. Krage and V. Bokan Bosiljkov	957
Small sample testing of historical materials M. Drdácý, I. Jirovský, M. Micka, J. Minster, B. Kasal and D. Vavřík	961
Portable testing device for building materials M. Drdácý and D. Vavřík	963
Modern grouting products – market overview K. Zajadacz and S. Simon	965
Understanding and prevention of salt damage to restoration plasters. The COMPASS project R.P.J. van Hees, S. Naldini, V. Verges-Belmin, C.J.W.P. Groot, M.P. Luxán Gómez del Campillo, J. Delgado Rodrigues and L. Pel	969
Monitoring of painted facades the Momorex project as a first step to the future maintainance program Christophorus H. Leitner, M. Matteini and P. Tiano	973
Structural behaviour of historic carpentry joins M. Drdácý, I. Jirovský, V. Mlázovský, P. Růžička, F. Wald, I. Kirizsán and B. Szabó	977
Conservation of western style heritages in the eastern context T. Zhang	981
The reconstruction of the fortress Kayan and it's forgotten history L. Vardanyan	983
The PROHITECH project: a summary of ongoing activity F.M. Mazzolani, A. Mandara and G. De Matteis	987
Open and fully compatible next generation of strengthening system for the rehabilitation of Mediterranean building heritage J.T. San-José, I. Rz-Maribona, A. Garay and I. Garrucho	991
IRMA project: <i>Integrated decontamination and Rehabilitation of building, structures and Materials in urban renewal</i> F. Cioffi, R. Ippoliti and M.P. Contento	995
Effect of air pollution on corrosion of metal cultural heritage objects J. Kobus and M. Błasiak	999
The complexes of manor houses renovation and integration into urban environment I. Strazda and M. Orupe	1003
SCENE (Significant European CEmeteries NETwork) project: cemeneteries of Europe. A historical heritage to appreciate and restore M. Felicori	1007
e-MEM – Interactive graveyard information management tool and virtual memoriam database H. Johannsson, M. Felicori, A. Sarris and A. Vysniauskiene	1011
Rural architecture and landscape between tradition and innovation D. Bosia, G. Franco and S.F. Musso	1015
Methodology for supporting the under touristic development Poliphimos cave in Maronia, Thrace B. Charitaras, Th. Chatzigogos, A. Dimitriou, N. Chatzigogos, Th. Makedon, D. Vogiatzis, S. Filippidis and El. Dotsika	1019

Outdoor sculpture & citizens. Aiming to the protection of the monuments through educational actions Z. Antonopoulou	1023
Tourism related research and Stakeholder Participation T. Drdácý and J. Alvaer	1027
Interfacing research and risk management for a better safeguarding of cultural heritage A. Brokerhof, S. Michalski, J.L. Pedersoli Jr. and R. Waller	1031
Terezín/Theresienstadt: a European monument A. Debold-Kritter, J. Polívka and F. Rahn	1035
Medistone: a new research program on the preservation of ancient Mediterranean sites in terms of ornamental and building stone D. Dessandier, P. Bromblet, J.M. Vallet, J.D. Mertz, L. Leroux and F. Delorme	1039
Image and heritage: heritage policy and artistic practice Ch. Estève	1043
The research work on the monastic complex at Žižce with the help of the means provided by the Culture 2000 programme M. Golež, B. Badoviac, A. Mauko and P. Shepard	1047
Economic instruments in urban planning for urban and rural character protection E. Kotíková	1051
Conservation of garden monuments in Austria recent developments U. Krippner and L. Licka	1055
FOGGARA inventory, analysis and enhancement of traditional water techniques of European and Saharan P. Laureano	1059
Rescue of Russian estates of Kazan city region: problem and perspectives I.V. Mityashin	1063
Conservation of buildings, with Oulu as an example K. Niskala	1067
Coordinating diversity: landscape as common and multi-faced cultural heritage A. Orejas, M.R. del Árbol and F.-J. Sánchez-Palencia	1071
Monasteries as a part of cultural heritage in Russia and Europe O. Sevan	1075
Materials, scale and density – the grounds of good neighbourhood in finnish wooden towns R. Suikkari and K. Reinikainen	1079
Heritage led regeneration: safeguarding through investment M. Sutherland and I. Walters	1083
Developing a folksonomy of cultural heritage attractions Ch. Tweed	1087
Study of the historical buildings of Meknes (Morocco) and their alterations – proposal of various tools for their conservation J.M. Vallet, S. Kamel, P. Bromblet, J.D. Meunier, R. Mahjoubi, R. Ajakane, R. Bouabib, Y. Noack and D. Borschneck	1091
SHAFUF – Traditional water techniques: cultural heritage for a sustainable future M.L. Vitobello and F. Hassan	1095
Contribution of EU Cultural 2000 Programme projects focused on innovative technologies and historical handicrafts to the cultural heritage sector E. Lukášová	1099
A framework for documentation of conservation project L. Kealy and M. Robertson	1103

3D + colour digitising techniques applied to Romanesque churches	1107
P.M. Leronés, J. Llamas, D. Moñux, J.G. García-Bermejo and E. Zalama	
International inventory on medieval castles in the UNESCO world heritage areas upper Middle RhineValley and Danube – EBIDAT	1111
R. Friedrich	
P.I.C.A – Portale Informatico Culturale delle Alpi occidentali: a multi-disciplinary and integrated project for cultural heritage	1115
D. Demarchi, G. Di Gangi, C. Bouliou and C.M. Lebole	
Initial results of the ATHENA project at IESL-FORTH	1119
A. Nevin, I. Osticioli, D. Anglos, C. Fotakis and E. Castellucci	
Study of technology of cultural heritage conservation at the Institute of Chemical Technology Prague, Czech Republic	1123
P. Kotlík, I. Kučerová, K. Doubravová and M. Škrdlantová	
Bachelor study programme “Conservation and restoration of cultural heritage – works of arts and crafts” at the Institute Chemical Technology Prague, Czech Republic	1127
P. Novák, P. Kotlík, I. Kučerová, K. Doubravová and M. Škrdlantová	
National research activities at the Department of Conservation of Antiquities & Works of Art (T.E.I.-A) for the conservation, protection & management of cultural heritage	1131
A. Alexopoulou, V. Argyropoulos, Th. Avaritsiotis, D. Charalambous, E. Ioakimoglou, V. Lambropoulos, G. Panagiaris, A. Pournou, P. Theoulakis and E. Tsilaga	
Focus area cultural heritage	1135
P. Eynaud de Fay and R. Zarnic	
European technological construction platform: focus area cultural heritage – WG5: management, exploitation and maintenance	1139
I. Rodríguez Maribona, P. Eynaud de Fay and R. Zarnic	
Integration of technologies for building diagnostics and monitoring in the preservation of cultural heritage – FACH	1141
Ch. Maierhofer, K. Van Balen and J. Akerboom	

Index of authors