

INDICE / INDICE / CONTENTS

Prefazione / Préface / Preface	7
Atti - scheda tecnica / Actes - fiche technique / Proceedings - technical file	10
Scheda della conferenza / Fiche de la conférence / Conference file	12

**TEMA 1: ANTROPOLOGIA, CULTURE COSTRUTTIVE,
PAESAGGI CULTURALI**
**THÈME 1: ANTHROPOLOGIE, CULTURES CONSTRUCTIVES
ET PAYSAGE CULTUREL**
**THEME 1: ANTHROPOLOGY, BUILDING CULTURES
AND CULTURAL LANDSCAPE**

Introduzione al tema 1 / Introduction au thème 1 / Introduction to theme 1	20
--	----

L'architettura in terra nella pianura Padana (Italia settentrionale): gli edifici in mattoni crudi nella provincia di Cremona <i>Roberto Bugini, Danilo Biondelli e Luisa Folli</i>	23
---	----

Trasformazioni dei paesaggi culturali di terra in Calabria <i>Rosario Chimiri</i>	33
--	----

Les architectures en terre a coupoles dans la Syrie du nord <i>Emmanuelle Devaux, Letizia Dipasquale, Saverio Mecca, Silvia Onnis</i>	41
--	----

Églises en pisé mixte à Palencia <i>Juana Font Arellano</i>	53
--	----

Cultura del costruire: l'architettura di terra e l'equivoco "mediterraneo" <i>Eugenio Galdieri</i>	65
---	----

Earth architecture and Slovenia <i>Borut Juvanec</i>	71
---	----

Analyse constructive et structurales des coupoles «a encorbellement», en terre, dans la région d'Alep <i>Silvia Onnis, Mirta Paglini, Luisa Rovero, Ugo Toniatti</i>	85
--	----

- Reinforcement of rammed earth constructions with gypsum 99
in Aragon area, Spain

Fernando Vegas, Camilla Mileto, Valentina Cristini

OUTSIDE MEDITERRANEAN REGION

- The Mediterranean Portuguese influence in the Brazilian 109
earth-building tradition: a valuable heritage to research

Maria Isabel Kanan

TEMA 2: ARCHEOLOGIA, STORIA E LESSICOLOGIA

THÈME 2: ARCHÉOLOGIE, HISTOIRE ET LEXICOLOGIE

THEME 2: ARCHAEOLOGY, HISTORY AND LEXICOLOGY

- Introduzione al tema 2 / Introduction au thème 2 / Introduction to theme 2 122

- Earth-Stone symbiosis in archaeology and conservation 125

Cirillo Atzeni, Giorgio Pia, Ulrico Sanna, Nannina Spanu

- Mudbrick architectures in low Guadalquivir on orientalizing period. 131
Some reflections around carambolo settlement

Patricia Bruno

- Stabilité, disparition et fluctuation des traditions constructives 139
en terre dans les pays méditerranéens

Claire-Anne de Chazelles

- Terra cruda nel patrimonio architettonico siciliano: 151
conoscenza e conservazione

Maria Luisa Germanà

- Les structures architecturales en terre crue de la Protohistoire 159
égéenne: de la fouille à l'identification

Raphaël Orgeolet

- Culture sismique locale en Crète (Grèce) à l'Âge du Bronze 169

Georgia Poursoylis

- Les débuts de l'architecture de terre au proche-orient 189

Martin Sauvage

TEMA 3: CONSERVAZIONE E GESTIONE DEL PATRIMONIO CULTURALE
THÈME 3: CONSERVATION ET GESTION DU PATRIMOINE CULTUREL
THEME 3: CONSERVATION AND MANAGEMENT OF CULTURAL HERITAGE

Introduzione al tema 3 / Introduction au thème 3 / Introduction to theme 3	200
Le patrimoine mondial en terre dans la Méditerranée <i>Ana Paula Amendoeira, Maria Fernandes</i>	203
Studies on the 18 th Century mortars and plasters used in the housing construction from Balat-Fener District of Istanbul, Turkey <i>Muhammed Aydin, Tülay Tulun</i>	217
Dissesti e degrado a causa dell'uomo sull'architettura in terra cruda <i>Stefano Bagliani</i>	223
Il programma <i>Terre di Terra</i> e il progetto colore: una strategia per la conservazione e la valorizzazione del patrimonio in terra cruda <i>Gaia Bollini, Isidoro Parodi</i>	233
Guida al recupero dell'architettura in terra cruda nel Piemonte Sud-occidentale <i>Daniela Bosia</i>	249
Quel avenir pour les architectures de terre au Maroc? <i>Mohamed Boussalh</i>	259
Réflexion sur l'architecture en terre de Figuig et les enjeux de sa conservation <i>Amar Abbou, Maurizio Cafarelli</i>	269
<i>Tapia Valenciana</i> : caratteristiche di muri in terra cruda rinforzati con mattoni <i>Valentina Cristini, José Ramon Rruiz Checa</i>	285
Un avenir pour Nouveau Gournia <i>El-Wakil Leila</i>	295
From catalogue to management: an experience of monitoring for the study and the conservation of local traditional building techniques <i>Donatella Rita Fiorino</i>	305

- Il restauro dell'architettura in terra: una nuova metodologia
per la valutazione dei trattamenti conservativi 317

Anna Maria Mecchi, Costantino Meucci, Ilaria Nicolini

- Characterization of the 4th millennium mud-bricks of Arslantepe -
Malatya (Turkey) 327

*Giovanna Liberotti, Corrado Alvaro, Marcella Frangipane, Ciriaco Giampaolo,
Sergio Lo Mastro, Paola Meloni, Raimondo Quaresima, Roberto Volpe*

OUTSIDE MEDITERRANEAN REGION

- A century of earthen architectural conservation
in American Southwest National Parks 337

John M. Barrow

- Oltre il mediterraneo: dal dromedario al cammello. 351

Architettura di terra e strategie di conservazione in un sito
archeologico fortificato lungo la via della seta

Mauro Bertagnin, Désirée De Antoni, Anna Frangipane, Silvia Pozzi

- Combining traditional and innovative technologies 361

in the conservation and development of Al Jahili Fort, a historic
mud brick building in the oasis city of Al Ain, Abu Dhabi, UAE

Sami El-Masri, Peter Sheehan

- Preservation of Historic buildings in Earthen Architecture 369

Saleh Lamei

- Protecting earthen architecture from rainfall erosion 379

in Arg-E-Bam (Iran) and Tayma (Saudi Arabia)

Guido Licciardi

TEMA 4: RICERCA SU COSTRUZIONE, ARCHITETTURA, PIANIFICAZIONE URBANA, R & D

**THÈME 4: RECHERCHE EN CONSTRUCTION, ARCHITECTURE,
URBANISME ET R & D**

**THEME 4: RESEARCH IN CONSTRUCTION, ARCHITECTURE,
TOWN PLANNING AND R & D**

- Introduzione al tema 4 / Introduction au thème 4 / Introduction to theme 4 388

Influence de la teneur en sel et du Ph sur la plasticité du matériau terre	391
<i>Romain Anger, Laetitia Fontaine, Hugo Houben</i>	
An industrial experience on <i>Iadiri</i> production in Sardinia	399
<i>Cirillo Atzeni, Mauro Coni, Maurizio Manias, Giorgio Pia, Ulrico Sanna</i>	
Static analysis of earthen corbelled domes in the Aleppo's region	405
<i>Giuseppe Berti, Mirta Paglini, Luisa Rovero, Ugo Tonietti</i>	
Weathering and multipollutants agents impact on earth architecture: damage processes and vulnerability	415
<i>Alessandra Bonazza, Gianfranco Carcangiu, Luigi Massidda, Paola Meloni, Cristina Sabbioni</i>	
Military topographies: earth fortresses between borders	425
<i>Gilberto Carlos, Mariana Correia</i>	
Le matériau pisé a Cherchell (Algérie): un autre type d'architecture en terre. Nature et filiation	437
<i>Youssef Chennaoui</i>	
Les portails de la Medina de Meknès, Maroc: état des lieux	451
<i>Sanae Elkhanchoufi, Said Kamel, Rachida Mahjoubi, Jean Marc Vallet, Philippe Bromblet</i>	
Compressed earth blocks using metakaolin and lime with antifungicide additions	461
<i>Rute Eires, Aires Camões, Said Jalali</i>	
Influence of different reinforcing fibres on the mechanical properties of an earthen material	467
<i>Francesco Aymerich, Luigi Fenu, Paola Meloni</i>	
Quelques mécanismes de stabilisation du matériau terre de la terre stabilisée aux composites argiles - biopolymères	473
<i>Laetitia Fontaine, Romain Anger, Hugo Houben</i>	
The earth salt architecture of middle age in the Siwa oasis, Egypt	481
<i>Fabio Fratini, Silvia Rescic, Luisa Rovero, Ugo Tonietti</i>	

La costruzione in terra cruda della Sardegna meridionale: metodiche per la datazione delle strutture <i>Caterina Giannattasio</i>	493
Design and strengthening of earth construction in seismic areas <i>Maria Idália Gomes, Jorge de Brito, Mário Lopes</i>	505
Earthen architecture revival as brand building project in Cyprus; while investigating the seismic measures on historical structures <i>Bilge Isik</i>	517
Measurement of mechanical strength, thermal conductivity and moisture of earth samples from Crete, Greece, containing clay and straw for architectural applications <i>Theodoros Markopoulos, Paola Rotondo, Apostolos Pantinakis, Panagiotis Pantzekos, Apostolos Mousourakis, Georgia Chrysafaki</i>	527
Economy and common sense. Simple solutions from past for today and beyond <i>Domen Zupančič</i>	537
OUTSIDE MEDITERRANEAN REGION	
Mexican contemporary earthen architecture <i>Berenice Aguilar Prieto</i>	549
Kraftterra – the incorporation of recycled cement sacks to the soil for compressed earth block production <i>Márcio Albuquerque Buson, Rosa Maria Spoto</i>	561
Structural properties of adobe dwellings in Cusco (Peru) for seismic risk assessment <i>Nicola Tarque, Helen Crowley, Humberto Varum, Rui Pinho</i>	573
Using indigenous earthen architectural knowledge to build sustainable natural living environments <i>Lesley Freedman Townsend</i>	585

TEMA 5: DIDATTICA E SENSIBILIZZAZIONE PUBBLICA
THÈME 5: EDUCATION ET SENSIBILISATION PUBLIQUE
THEME 5: EDUCATION AND PUBLIC AWARENESS

Introduzione al tema 5 / Introduction au thème 5 / Introduction to theme 5 600

Restauro, nuova costruzione e didattica. 603

Un'esperienza svolta a Treia, Italia

Anna Paola Conti

Le terre del Mediterraneo 615

Gianfranco Conti

Professional training in conservation of rammed earth constructions 623

Susana Sequeira, Maria Fernandes, Miguel Rocha

«Exploraterra», un module d'enseignement innovant pour
la didactique de l'architecture de terre 631

Hugo Houben

Centre du patrimoine de terre de Marrakech: montage 645

d'une structure de recherche, de formation et d'assistance

Tayyibi Abdelghani

OUTSIDE MEDITERRANEAN REGION

Professional training and academic teaching in earth architecture: 657

the activities and experiences of the Dachverband Lehm E.V., Germany

Horst Schroeder, Ulrich Röhlen, Stephan Jörchel

Makunaima – the adobe village and seasonal training camp 665

for cultural heritage on earthbuilding, located in Berlin

Rainer Warzecha