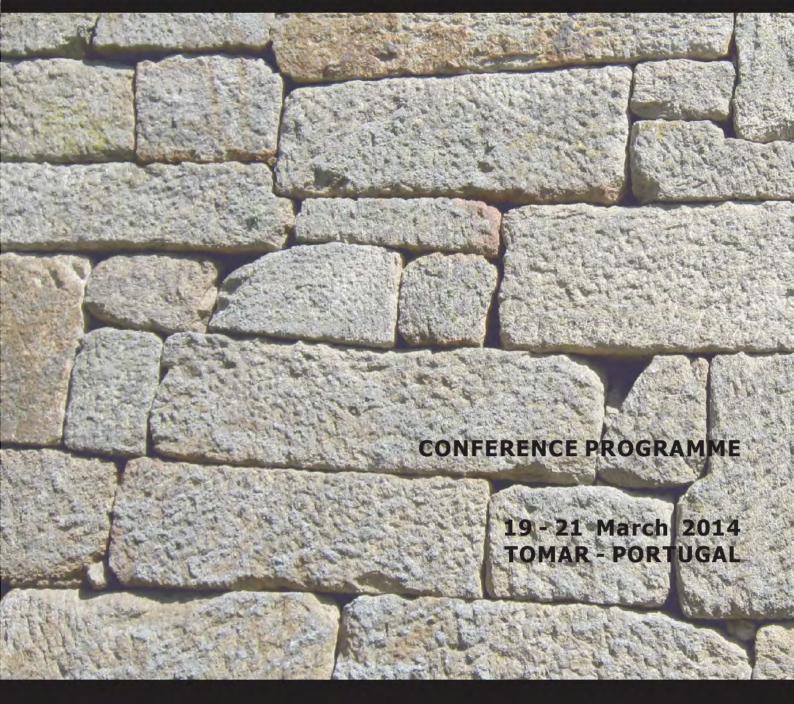
# **REHAB 2014**

International Conference on Preservation, Maintenance and Rehabilitation of Historical Buildings and Structures





### Conference Programme 19 - 21 March 2014

#### **Organising Committee**

Sérgio Lira, Rogério Amoêda, Cristina Pinheiro, Marlene Cunha Green Lines Institute



REHAB 2014 - International Conference on Preservation, Maintenance and Rehabilitation of Historical Buildings and Structures

March 2014

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Scope

**REHAB 2014 – International Conference on Preservation, Maintenance and Rehabilitation of Historic Buildings and Structures** aims at pushing further the discussion on built heritage and the preservation of its legacy, establishing a settle of knowledge and experience from several parts of the world. The importance of conservation of historical constructions (built landscape, urban fabrics, buildings, and engineering works) are of utmost importance to preserve the cultural references of a community.

Under the main topics of discussion, subjects of preservation and rehabilitation methodologies and technologies, as well the importance of the economic and social impacts of preservation practices are here covered as the main leading guidelines for the conference debate.

Furthermore, different communities' scales (local, regional national or even worldwide) raise different questions and approaches, and therefore different solutions that are worthily to study, to compare and to experience.

The sustainability approach is also covered, highlighting the importance of the commitment between heritage preservation and technical requirements related to its occupancy and use, such as energy efficiency or materials recovery.

Inclusivity is also an important aspect to be discussed as public historical sites and buildings need to be adapted to receive different kind of visitors (children, elderly or handicapped persons) and to establish an adequacy with the perceiving of the physical environment and information contents.

As a Special Chapter, Archaeological sites are brought into a particular approach as historical elements to be preserved, maintained and visited often when field works are carried on. These kinds of structures raise unique problems of preservation and promotion, and have highlighted the needs of specific solutions to be applied.

# International Journal of Heritage and Sustainable Development



REHAB 2014 - International Conference on Preservation, Maintenance and Rehabilitation of Historical Buildings and Structures

Partners



SECRETÁRIO DE ESTADO DA CULTURA

CONVENTO D CRISTO













H S D



Venue

#### TOMAR

Tomar inhabitants are called "Nabantinos" as the ancient Roman city in this exact location was called "Nabantia".

After the conquest of the region from the Moors by the Portuguese, the land of Tomar was granted to the Order of the Knights Templar in 1159. In 1160, Gualdim de Pais, the fourth Master of the Knights Templar, started to build the Castle and the Monastery. The medieval town was built inside the walls, under the protection of the Castle. Centuries later, the town expanded outside the walls from the top of the hill to the banks of the River Nabão.

Tomar became the Head-Quarters of the Templar Order in Portugal ruling a vast region of central Portugal and received its official charter in 1162. The strategic location of Tomar, allowed the Templar and the inhabitants of Tomar to defend the Portuguese territory from Moorish attacks coming from the south. Tomar was attacked by the Moroccan caliph Abu Yusuf al-Mansur's army in 1190 and the Templar Knights defeated the Muslims in a bloody battle.

In 1314, King Dinis negotiated with the Pope Clement V the banish of the Order of the Knights Templar. Instead the Portuguese King proposed a transfer of the Templar possessions to the newly created Order of Christ, the Grand Master being nominated by the Pope and the Master of "Governo" (Governor) by the Portuguese King.

Prince Henry "The Navigator", King John I's son, was made Governor of the Order and used the Order of Christ's possessions and influences to promote the first steps of the Portuguese maritime expansion. The cross of the order of Christ was painted in the sails of the Portuguese caravels and the catholic missions were under the authority of the Tomar clerics until 1514.

Henry was the first one to improve the building of the Convent of Christ since its foundation by Gualdim Pais. Among his enterprises in Tomar were the dams built in the River Nabão. He also ordered the expansion of the town designed in a rational, geometrical grid, as it still is today.

After the expulsion of the Jews from Spain in 1492, Tomar received a significant community of Jewish refugees. This new community was devoted to artisan and trade and created a new flow of businesses in Tomar and influenced the new trade routes with Africa. The original synagogue still stands as a memory of those days. By influence of the Spanish Kings, in 1497 King Manuel I expelled all Jews who refused to convert to Christianity. Due to the establishment of the Inquisition in

Portugal and to its persecution of the Jews, the town of Tomar lost significant part of its economic influence.

In the first half of the 16th century, Tomar had its golden period. King Manuel I, the patron of the architectural style of "Manuelino" chose to live in Tomar, and built a palace opposite to the Church of São João Baptista in the Square of Republic. The palace is nowadays the office of the City Council.

In the 18th century, during the reign of Queen Maria I, Tomar had a significant industrial development becoming one of the main industrialized regions in the country. This development was represented by several new industries such as textile factory Jácome Ratton, a cotton mill, a paper mill, foundries, glassworks, silks, and soaps. All these industries were located in the banks of the River Nabão using the hydraulic resources to power the production systems.

In the early 19th century, Tomar was occupied by the French army during the Napoleonic invasions. The city was liberated afterwards by Portuguese and English troops commanded by the Duke of Wellington.

In 1834, all the religious orders, including the Order of Christ, were disbanded and the Convent of Christ became property of the Portuguese crown.

Nowadays, the town is split by the river in two, the historic centre at the west side (district of São João Baptista) and the modern town at the east side (district of Santa Maria dos Olivais).

The new part of the town represents the vitality of Tomar. There we may find large streets and avenues where are located schools, apartment buildings and offices. The Technical University established in a modern campus is also an example of Tomar's modernity.

Remembering its history, Tomar is a renovated town with many shops, high quality restaurants, parks, modern sports facilities, art galleries and where significant cultural events take place. The most important is the Festival of the Trays, which is held once every four years.



#### CONVENT OF CHRIST

The most outstanding monument to be seen in Tomar is the Convent of Christ, which is a historical description of the Portuguese architectural styles from the 12th to the 18th centuries, with special emphasis on the late gothic and the unique style of Manueline. This style diversity offers the visitor an opportunity to enjoy a unique architectural itinerary through history.

In 1418 Prince Henry "The Navigator", who was Grand Master of the Order of Christ at the time, ordered the construction of the extraordinary "Charola" and the Templar's fortress.

An outstanding portal leads to the exuberant Manueline nave and next to it is the "Charola", the heart of the Convent, a sixteen-sided rotunda where the Templar attended mass on horseback, built on an octagonal plan inspired in the layout of the Rotunda of Jerusalem's Holy Sepulcher. Stones from Roman ruins were used in its construction. For visitors this might be the highest point of the building tour. From the outside, large buttresses support the thrust. Inside, between the arches and gothic corbels, it may be admired a set of polychrome wooden statuettes of the prophets and a set of painted panels describing scenes from the life of Christ.

From the "Charola", the Convent spreads around several cloisters. Overtime a set of architectural addictions was built: eight cloisters, a two storey 16th century Manueline church, the choir and the sacristy.

The portal and the famous Chapter House window are stupendous architectural moments. The window was sculpted in 1510 and includes an outstanding number of maritime motifs: tangled ropes, coral, the Cross of the Order of Christ, the royal arms and armillary spheres of King Manuel I.

The oldest cloister is the Gothic Cemetery Cloister where are the graves of the monks.

In 1533 began to be built the renaissance style cloister of John III, also known as the cloister of the Philips, designed by the Portuguese architect João de Castilho. Along its construction, the cloister integrated also a classicism style by the hand of Diogo de Torralva, and was completed during the reign of Philip II with a mannerist fountain designed by Pedro Fernandes de Torres.

According to the needs of expansion, were constructed the remaining wings and cloisters of the convent.

The water in the Convent was provided by a series of cisterns in the main cloisters and at the end of the 16th century was built the Aqueduct of Pegões to channel water from springs in the northeast part of Tomar. The water channeled by the aqueduct was stores in a tank in the garden. In the year of 1983, UNESCO inscribed the Convent of Christ in the World Heritage list. In the UNESCO's statement it's written:

"Originally designed as a monument symbolizing the Reconquest, the Convent of the Knights Templar of Tomar (transferred in 1344 to the Knights of the Order of Christ) came to symbolize just the opposite during the Manueline period - the opening up of Portugal to other civilizations."



Courtyard



"Charola"



Conference Room





"Charola"





Chapter House window



Restaurant



Dinning Room

# Conference Topics

- Rehabilitation of historical sites, buildings and structures
- Economics and management of historical sites, buildings and structures
- Tourism and promotion of historical sites, buildings and structures
- Significance, cultural and social values of built heritage
- Inclusivity of historical sites, buildings and structures
- Inspection and monitoring of historical sites, buildings and structures
- New materials and products for the rehabilitation of historical buildings and structures
- Sustainability principles and practices in the rehabilitation of historical buildings and structures
- Special Chapter: Archaeological sites

# Scientific Committee

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Petr Kabele Czech Technical University in Prague, Czech Republic

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#### **Teresa Ferreira** University of Porto, Portugal

Victor Echarri Iribarren University of Alicante, Spain

Vlatka Rajčić University of Zagreb, Croatia

### Conference Programme Overview

#### 19 March - Wednesday - Convent of Christ

- 09:00 Opening Reception Desk and check in
- 10:30 Opening Session
- 11:00 Plenary Session: Convent of Christ
- 11:30 Visit to the Convent of Christ
- 12:30 Lunch
- 14:00 Plenary Session: Municipality of Tomar
- 15:30 Visit to the historical centre of Tomar
- 18:30 Welcome drink (Porto de Honra)

#### 20 March - Thursday - Polytechnic Institute of Tomar (meeting point: Hotel dos Templários, 8:15)

- 08:30 Opening Reception Desk
- 09:00 Working Sessions S01, S02, S03 and S04
- 10:30 Coffee break
- 11:00 Working Sessions S05, S06, S07 and S08
- 12:30 Lunch
- 14:00 Visit to the Labs of the Polytechnic Institute of Tomar
- 15:30 Working Sessions S09, S10, S11 and S12
- 17:00 Coffee break
- 17:30 Sessions S13, S14, S15 and S16

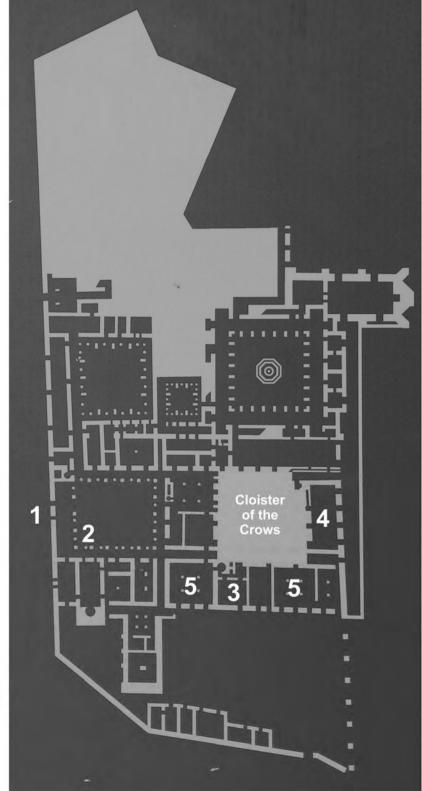
#### 21 March - Friday - Convent of Christ

- 08:30 Opening Reception Desk
- 09:00 Working Sessions S17, S18, S19 and S20
- 10:30 Coffee break
- 11:00 Working Sessions S21, S22, S23 and S24
- 12:30 Lunch
- 14:00 Working Sessions S25, S26, S27 and S28
- 16:30 Coffee break
- 17:00 Plenary Session: Prof. Paulo Lourenço, University of Minho, Portugal

"The ICOMOS methodology for conservation of cultural heritage buildings: Concepts, research and applications to case studies"

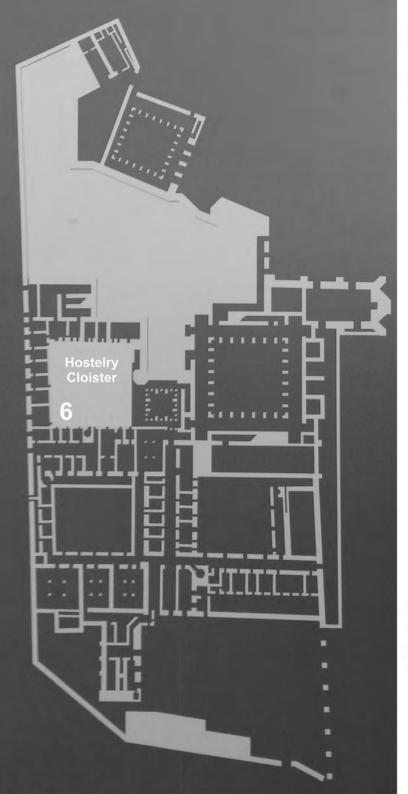
- 18:00 Best papers awards
- 18:30 Closing Session
- 19:30 Social Dinner

# Convent of Christ



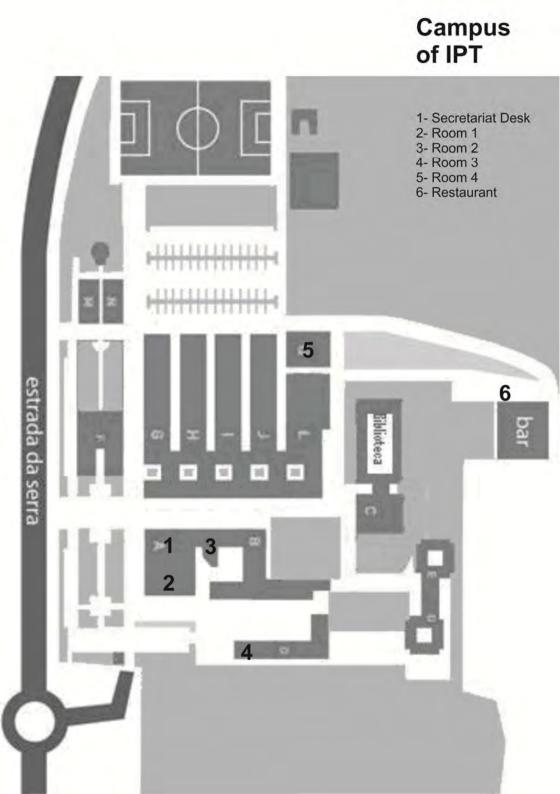
#### **GROUND FLOOR**

- 1- Entrance
- 2- Check-in
- 3- Secretariat
- 4- Auditorium/Room 1
- 5- Restaurant



# Convent of Christ

FIRST FLOOR 6- Rooms 2, 3 and 4



Schedule of Working Sessions

#### 20 March - Thursday - Polytechnic Institute of Tomar (IPT)

#### 9:00 - 10:30: Working Sessions S01, S02, S03 and S04

#### <u>Session S01 (Room 1)</u> Topic 1: Rehabilitation of historical sites, buildings and structures

**A. M. T. Martins** - Contemporary rehabilitation vs. medieval cistercian architectural heritage: the ideal beneath the project

M. L. Belgas, J. M. Mascarenhas & F. G. Branco - Rehabilitation of "Our Lady of Grace" church - Ferreira do Zêzere

**C. A. Cacciavillani & C. Mazzanti** - The sighting medieval towers in the Abruzzo Region (Italy): study and conservation

M. Sulaiman & D. Theodossopoulos - Challenges in the conservation of the traditional Malay House in the case of Rumah Tukang Kahar and Rumah Dato' Laksemana Hajah Bogdad

#### Session S02 (Room 2) SPANISH/PORTUGUESE Topic 4: Significance, cultural and social values of built heritage

**G. Domenech Casadevall** - From demolition to renovation. Revaluation of Rafael Maso's architecture in Girona (Catalonia)

M. I. Sardón de Taboada & A. Telesca Stiefel - Reviewing the planning of WHC Spanish cities

M. J. Pacho - Housing architecture. Typologysation and proposal to crite-ria for patrimonial status

**C. Jover Fontanals** - Restoration and popularization of Gaudi's work. The Pedrera, an adaptation of a private residential building to a new activities programme

#### Session S03 (Room 3)

#### Topic 4: Significance, cultural and social values of built heritage

**A. Versaci, D. Indelicato, L. Fauzia & A. Cardaci** - A historico-critical analysis for the conservation and rehabilitation of Bourbon prison in Syracuse

S. Stone - Gate 81

**H. H. Leung** - The Cultural- and Place-identity of Hong Kong after 1997: Explored through Preserving and Demolishing Built Heritage Sites

**J. A. García-Esparza** - Evaluating built environments through a socio-cultural approach. The case of the narrow gauge railway stations, Västrä Götaland (Sweden)

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Session S04 (Room 4)

#### Topic 6: Inspection and monitoring of historical sites, buildings and structures

P. J. A. Skipper & L. K. Skipper - Understanding bacterial colonisation of built cultural heritage

**E. R. McSkimming** - The Australian Museum: analysis of weathering effects on Sydney (Yellow Block) Sandstone

J. B. Williamson, J. Stinson, C. Garnier & J. Currie - In-situ monitoring of thermal refurbishment on pre-1919 properties in Scotland

T. Røskar - Old buildings in a new climate

**C.** Patricio González, M. B. Caro Tinoco, K. S. Mac Gairbheith & I. Pajares Sánchez - 3D Digital non destructive virtual testing in the areas of energy use, lighting quality, ventilation, etc, in the Mosque-Cathedral of Cordoba. Spain

#### 11:00 - 12:30: Working Sessions S05, S06, S07 and S08

#### Session S05 (Room 1)

#### Topic 1: Rehabilitation of historical sites, buildings and structures

T. Ferreira - Towards maintenance: concepts and Portuguese experiences

C. W. Gago - Renovation strategies: use and changes to Lisbon's current domestic spaces

C. C. Falasca - The fragmentation of property as damaging the historic building heritage

D. Besana - Re-writing historical buildings: strategies of intervention

#### Session S06 (Room 2) SPANISH/PORTUGUESE

#### Topic 1: Rehabilitation of historical sites, buildings and structures

M. Mària i Serrano & J. C. Minguell i Font - The Master Plan of the Episcopal Palace of Barcelona. Fundamental knowledge for intervention

J. L. Campano Aguirre, J. L. Campano Calvo, P. Carrasco García, F. González Alonso & A. Farfán Martín - Restoration of mediaeval buildings

S. Quesada-García & L. J. García-Pulido - A proposal for the restoration of the Islamic Towers in the Segura de la Sierra Valley (Spain). Significance and values of this cultural landscape

J. L. Solaun Bustinza, U. Gaztelu Onaindia, L. A. Ortega, J. Rodriguez García, A. Morillo Navarrete & A. A. Jiménez de Aberasturi - Group of monuments of Portilla (Basque Country, Spain). A project about comprehensive management of heritage

S. Palomares Alarcón - Industrial heritage: Atarazanas Market's squares in Málaga

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Session S07 (Room 3)

#### Topic 4: Significance, cultural and social values of built heritage

V. Cinieri & E. Zamperini - Preservation and valorisation of vernacular built heritage. People education and participation in Italy

M. Ghafouri - Social values as a pillar of value based participatory heritage development

F. M. Almurahhem - Verbal documentation of built heritage: the case study of Makkah

R. Offen - Getting the message across

#### Session S08 (Room 4)

#### Topic 6: Inspection and monitoring of historical sites, buildings and structures

**M. Saura** - A soldier-pile structure for environmental rehabilitation of historic sites: Sant Pere de Premià

**R. Agarwal & A. Upadhyay** - Structural assessment of Alai Darwaza: an Indo-Islamic monument in the Qutb Complex, Delhi, India

G. Vasconcelos, F. M. Fernandes, C. Alves & L. F. Ramos - Assessment of the stability conditions of an ancient stone masonry tower

C. Alves, G. Vasconcelos, F. M. Fernandes & S. Silva - Deterioration of the granitic stone at Misericórdia chapel in Murça (northern Portugal)

J. Valença, D. Dias-da-Costa & E. Júlio - Applications and methods based on multi-spectral image processing to Concrete Heritage assessment

#### 15:30 - 17:00: Working Sessions S09, S10, S11 and S12

Session S09 (Room 1)

Topic 1: Rehabilitation of historical sites, buildings and structures

M. L. Belgas, J. M. Mascarenhas & F. G. Branco - Building heritage – rehabilitation of the Lagares D´el Rey, future Levada Museum

**R. Di Giulio, M. Balzani, F. Ferrari, L. Rossato, B. Turillazzi & A. Tursi** - Restoration works at the Museo degli Innocenti in Florence: designing into the point cloud

**M. Falcone** - A contemporary architecture: the Golden Cube in the 'Mostra of Oltremare' in Naples. From restoration to new projects

**C. Falcão, M. Batata, R. Triães, J. Coroado, E. Ferraz & F. Rocha** - Project TACELO – Studies for the conservation of monumental terracotta sculptures from Alcobaça Monastery. Chalenges of integrated heritage

M. Fevereiro, L. Nunes & J. Ferreira - Traditional methods of timber protection against biodeterioration REHAB 2014 - International Conference on

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#### Session S10 (Room 2) SPANISH/PORTUGUESE Topic 1: Rehabilitation of historical sites, buildings and structures

A. Galiano & V. Echarri - The restoration of the Chapel of Our Lady of Monserrate at Orihuela (Alicante)

L. Zapata Montalvo - Ritualized architecture in East Mexico

M. M. Segarra Lagunes - The restoration of the Rocca Pia in Tivoli: from a prison to the Museo della Città

C. Jover Fontanals - Gaudí, the recover of Sagrada Familia's public space

Session S11 (Room 3)

Topic 4: Significance, cultural and social values of built heritage

A. Catalani & P. Panas - Owning memories: a tale of two cities

**F. Borghi & E. Coïsson** - The fortress of Montecchio Emilia between past and future. A restoration project to enhance the historic significance and the community identity

L. Félix, M. Correia, G. Vasconcelos & O. Feio - Preservation of vernacular housing: Importance and valorization

P. Benítez & M. Valiente - From spiral to helical stairs: Santa Cruz la Real and Santiago Apóstol approaches

#### Session S12 (Room 4) SPANISH/PORTUGUESE)

Topic 6 and 8: Inspection and monitoring of historical sites, buildings and structures / Sustainability principles and practices in the rehabilitation of historical buildings and structures

E. Torrero, M. Canosa, A. Coronado, D. Sanz, J. González & V. Navarro - Pathologies and physical characterization of the stone elements of; the Cathedral of Santa María of Cuenca (Spain)

J. Ruiz Jaramillo, A. Jaramillo Morilla & E. Mascort Albea - Seismic behaviour of Mudejar structures

**A. Jaramillo Morilla, E. J. Mascort Albea & J. Ruiz Jaramillo** - Seismic microzoning maps for restoration of monuments in Seville: Nuestra Señora de los Reyes Convent

M. Molina, A. Barrios & J. C. Mariñas - The new sustainability requirements in historical buildings rehabilitation

M. B. Caro Tinoco, C. Patricio González, K. S. Mac Gairbheith & I. Pajares Sánchez -Natural daylight and energy saving in the Mosque-Cathedral of Córdoba

#### 17:30 - 19:00: Working Sessions S13, S14, S15 and S16

#### Session S13 (Room 1) Topic 1: Rehabilitation of historical sites, buildings and structures

**M. R. Vitale & L. A. Scuderi** - The urban edge of the historical center of Randazzo (CT): a multiscale approach for restoration and rehabilitation

J. M. Abbott - Models for urban living: Micro Lofts at The Arcade Providence

M. Alsheliby, M. Beattie & A. Ballantyne - Crisis of traditional identity in the built environment of Saudi cities. A case study: Old City of Tabuk

N. Venkatraman - Pattern approach to preservation - temple towns in India

#### Session S14 (Room 2) SPANISH/PORTUGUESE

Topic 1: Rehabilitation of historical sites, buildings and structures

**M. A. Fernández Nieto & J. Gallego Sánchez-Torija** - Practical case of intervention: architectural remains as landscape. Rehabilitation of ruin in Mount Abantos

F. Hipólito Ojalvo & Y. Fernández Muñoz - The restoration of the Real Monasterio de Santa Ana, Badajoz. Spain

M. M. de Oliveira, R. Muñoz, C. C.Santiago & L. C. A. N. Santos - Stabilization of a façade: a mix of intuition, science and political action

J. M. Toldrà Domingo, I. Teixell, P. Solà-Morales Serra & A. Costa - The demolition of the restaurant inside Queen's Fort of Tarragona (Spain)

F. J. González Alonso, J. L. Campano Aguirre & J. L. Campano Calvo - The restoration of wood. Application to ancient structures in historical buildings

Session S15 (Room 3) Topic 4: Significance, cultural and social values of built heritage

P. Belardi, V. Menchetelli & L. Martini - Kultur-Fabrik-Perugia

**C. Pieri** - The invisible monuments of walled Nicosia: exploring the gradual disappearance of built heritage after the 1974 war

**N. A. A. Nik Din, Md M. Rashid & N. H. Salleh** - The architecture of Istana Jahar: apprehend the parameters of historical changes

L. Cazacova, M. C. Hidalgo, M. A. Farhan, F. A. Al-Masikhi, F. A. Al-Hafidh, H. M. Qatan, J. S. Hubais, L. F. Ghafoor, M. A. Al-Marhoon, M. T. Darwish, M. M. Al-Amri, S. S. Al-Baraami, S. S. Al-Shanfari & S. K. Al-Rawas - Recognition of Mirbat town's old area as historical environment

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Session S16 (Room 4)

Topic 7: New materials and products for the rehabilitation of historical buildings and structures

M. Miyamoto, N. Utsunomiya, S. Takahashi, M. Yamanaka, M. Matsushima & Y. Onishi - Development of mud walls mixed with bamboo fiber

F. Monni, E. Quagliarini & S. Lenci - Basalt ropes: a new product for the rehabilitation of historical masonry

J. M. Branco & F. Ferreira - Structural repair of decayed old timber end beams

T. Petrenas, O. Opuchovic, A. Beganskiene & A. Kareiva - Possible conservation routes to the historical outdoor ceramics

L. Carty, C. Garnier, J. B. Williamson & J. Currie - New thin aerogel based high performance internal wall insulation for existing solid wall buildings

#### 21 March - Friday - Convent of Christ

#### 9:00 - 10:30: Working Sessions S17, S18, S19 and S20

Session S17 (Room 1)

#### Topic 1: Rehabilitation of historical sites, buildings and structures

J. Lluis i Guinovart, A. Costa i Jover, S. Coll i Pla & J. M. Toldrà i Domingo - The restoration of the roof of the Gothic Cathedral of Tortosa

M. Miyamoto, Pema, T. Aoki & Y. Tominaga - Pull-down test of the rammed earth walls at Paga Lhakhang in the Kingdom of Bhutan

L. Anania & G. D'Agata - Performance of a multiple-leaves masonry wall under eccentrical loads

A. G. Vouraki, B. M. Stavroulaki, C. Z. Agioutantis & D. K. Van Balen - Parametric study on the structural behavior of the Western Curtain of Chania

#### Session S18 (Room 2)

Topic 3: Tourism and promotion of historical sites, buildings and structures

**R. J. Stephens** - In search of niche tourism, rehabilitation, and preservation in Michigan's Black Eden

**G. Pultrone** - Integrated innovative strategies of sustainable tourism through regeneration of minor historic centres

A. Barresi - Cultural tourism as economic activity for the sustainable development of territory

#### REHAB 2014 - International Conference on Preservation, Maintenance and Rehabilitation of Historical Buildings and Structures

Session S19 (Room 3)

#### Topic 4: Significance, cultural and social values of built heritage

**N. Kuban & E. Kishali** - Architectural heritage as cultural reference and a tool for sustainability: people's houses in Turkey after the cease of function

R. Cullen - 'Restoring' old houses and recognising significance in 1960s Australia

C. Frost - Tradition and historicism in Caruso St John's remodeling of Tate Britain

L. Mydland - The legacy of the one-room schoolhouse: Significance, cultural and social values

**R. Amoêda** - Rehabilitation of the watermills of rivers Alferreira and Barrocas - Gavião - Portugal: the sustainable preservation of natural and cultural values

#### Session S20 (Room 4)

#### Topic 5: Inclusivity of historical sites, buildings and structures

A. Greco - Accessibility of historical urban spaces: methods and solutions for all users

V. Giacometti - Heritage Accessibility: inclusive design solutions for Palazzo San Felice in Pavia

S. Yadollahi & S. Weidner - Iranian historical bazaar as public space. Case study: Tabriz bazaar

T. Pinto - Belem, urban space of renovation, stagnation and monumentality

#### 11:00 - 12:30: Working Sessions S21, S22, S23 and S24

#### Session S21 (Room 1)

#### Topic 1: Rehabilitation of historical sites, buildings and structures

**C. Agosti & R. Riva** - Rehabilitation and enhancement among culture, nature and landscape. Master plan and guidelines for "Bonoris Courts" heritage in Mantua

**M. Rashid & H. Kassim** - Virtual heritage rehabilitation and reclaiming the historical narrative - the 4D capturing of Adelaide Mosque, Adelaide, Australia

S. J. Lee - Edge, surface & lining

M. Locher - Embellissement: a sustainability strategy for the preservation of the historic city?

**T. Kwanda** - Conservation principles, tangible and intangible authenticity: Reconstruction of the Trajumas pavilion in the Kraton of Yogyakarta, Central Java, Indonesia

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#### Session S22 (Room 2)

#### Topic 1: Rehabilitation of historical sites, buildings and structures

**R. Lovinger** - The rehabilitation of the Horikawa Canal, Kyoto Japan: a built project of the Kyoto Study Program at the University of Oregon

J. Lu, S. Zhao, Y. Huang & Q. Wu & H. Liu - Spatial reintegration of chinese classical gardens: a case study of the rehabilitation of Wan Residence Garden in Suzhou, China

**C. Rodríguez-Liñán, M. J. Morales-Conde & F. Pérez-Gálvez** - Rehabilitation of domestic architecture in Sevilla. A study of building systems and characterization of the horizontal structure

A. Har-Noy & R. Liberty-Shalev - Railway heritage: conserving all or some of a serial site?

#### Session S23 (Room 3)

Topic 9: Special Chapter: Archaeological sites

G. Pacheco Neyra, V. Wright, H. Torres Peceros & O. Huaman Oros - Tambo Colorado research and conservation project

**E. Quagliarini, S. Lenci, F. Bondioli, G. Lepore & M. Zaccaria** - Interpretation and preservation of archaeological sites from their building construction techniques. The case study of S. Maria in Portuno in Italy

**M. Leonardi** - The memory project. Architectural and environmental design cases and strategies for the development of archaeological sites

#### Session S24 (Room 4)

Topic 8: Sustainability principles and practices in the rehabilitation of historical buildings and structures

E. Zamperini & S. Lucenti - Symbiotic architecture: rooftop additions on existing buildings

E. H. K. Yung & E. H. W. Chan - Difficulties in implementing the concept of sustainability in the adaptive reuse of heritage buildings: the case of Hong Kong and Shanghai

V. P. Matos - Sustainability and authenticity

#### 14:00 - 15:30: Working Sessions S25, S26, S27 and S28

#### Session S25 (Room 1) Topic 1: Rehabilitation of historical sites, buildings and structures

B. Millar - Scottish lighthouse: Aid to the mariner, or historic buildings

**G. Cristinelli & V. Foramitti** - The reconstruction of the castle of Colloredo di Monte Albano (Udine, Italy)

Z. Erturk, A. K. Terlemez, K. Uyanik, O. Z. Guzelci & H. Duyar Guzelci - Transformation of an old castle to a cultural environment by conservation and adding new building

**C. Y. Hong** - From rehabilitation to transformation - a perspective of urban conservation in Tainan, Taiwan

Session S26 (Room 2)

#### Topic 4: Significance, cultural and social values of built heritage

**K. Lens** - Conservation of monasteries by adaptive reuse: diversified program as a source of inspiration in past and future?

J.-C. Salcedo - The Monastery of Guadalupe and the cloister of Catholic Monarchs

**P. Fiore** - The ancient city of Paestum in the Province of Salerno (Italy). From the analysis of the place to a valorization strategy

S. S. Eldin & J. Magdy - Appraisal of Don Bosco Italian technical school in Alexandria to be nominated for UNESCO world heritage list

#### Session S27 (Room 3)

#### Topic 9: Special Chapter: Archaeological sites

T. Teba & D. Theodossopoulos - Connecting between phases: the conservation of the royal zone in Ugarit

**A. Firnigl** - The experiences of preservation and presentation of ruins in the former Roman province Pannonia, and their international parallels (through the examples of Portugal, Slovenia, Croatia, Austria and Germany)

Z. Aktüre - Permanencies: a contextual typology of Roman theatre interventions in Iberian Peninsula

M. Rotili - The castle of Montella and fortified settlements of inland Campania

#### Session S28 (Room 4)

Topic 8: Sustainability principles and practices in the rehabilitation of historical buildings and structures

**G. A. Tanguay, J. Rajaonson & E. Berthold** - A survey-based analysis of the use of sustainable heritage conservation indicators

C. Marchionni & P. De Berardinis - Sustainable networks in the post seismic rehabilitation of the minor centres

I. Mateus, R. Mateus & S. M. Silva - Using the SBTooIPT-H to optimize the sustainability during the design phase of a refurbishment operation of a residential building

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Notes

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