



DESIGN , TECHNOLOGY, REFURBISHMENT AND MANAGEMENT OF BUILDINGS

# DESIGN , TECHNOLOGY, REFURBISHMENT AND MANAGEMENT OF BUILDINGS

## 37<sup>th</sup> IAHS World Congress on Housing Science

Santander (Spain), 26-29 October 2010

Collaborating Entities:

2010



GRUPO DE TECNOLOGÍA DE LA EDIFICACIÓN. UNIVERSIDAD DE CANTABRIA

INTERNATIONAL ASSOCIATION FOR HOUSING SCIENCE



**37<sup>th</sup> IAHS World Congress on Housing  
“DESIGN, TECHNOLOGY, REFURBISHMENT AND  
MANAGEMENT OF BUILDINGS”**

**Santander (Spain) 26-29 October 2010**



SECRETARIAT

**37<sup>th</sup> WORLD CONGRESS IAHS**

Universidad de Cantabria

E.T.S. de Ingenieros de Caminos, Canales y Puertos de Santander

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37<sup>TH</sup> IAHS WORLD CONGRESS ON HOUSING (2010)  
**DESIGN , TECHNOLOGY, REFURBISHMENT AND MANAGEMENT OF BUILDINGS**

THIS WORLD CONGRESS HAS BEEN ORGANIZED BY:



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## 2. INTRODUCTION

The International Association for Housing Science (IAHS), this year 2010, is celebrating the 37<sup>th</sup> Congress. They are a tradition and annually, held in a different country. Last Congress was held in Kolkata, India. Before it, it was Melbourne, Australia.

As the issues related to human habitat are important and global, IAHS dwells on these issues, identifies them, searches knowledge based solutions to them. These congresses are the effective way to gather competent experts on various fields, to join together and create an environment for discussions. The outcome of these deliberations are published in the IAHS Journal and the Congress Proceedings.

IAHS was established at the University of Missouri, USA in 1972 as a Non-Profit Scientific Organization. It is a member of the United Nations as a Non-Governmental organization with accreditations in New York, Geneva, Vienna.

The IAHS Motto is: Progress through interdisciplinary cooperation and research. This emphasizes the importance of the expansion of knowledge based activities to help improve the global shelter problems. People want better homes and better environment for their families. This is a correct and continuous aspirations. A genuine concern, from our part, is mandatory and necessary to find ways to help. IAHS is in this venture for good. And it is doing its share.

The University of Cantabria (UC) – Spain, through its R & D Group of Building Technology (GTED), was invited to co-organize and manage this Congress at the beginning of 2009. UC welcomed this project with great interest and saw it as an important challenge: In fact, it affects and strengthens the strategic goal of internationalization of our university, in line with the honor and award of “Cantabria International Campus” that we have achieved in 2009.

From the beginning, three Administrations decided to promote this Conference: The Government of Spain, the Government of Cantabria and the City of Santander. Also, the Professional Associations linked to the multidisciplinary Building field and other Entities of the Region added their support: The combination of all these forces has made possible to reach the target.

Also, for the UC School of Civil Engineering, aimed in teaching and research in the world of Construction in general and, therefore, in the Building in particular (which means, in Spain and Europe, approximately 75% of the construction sector) and for its R & D Group of Building Technology, the celebration of this Congress is an important milestone in our history of more than 40 years. In fact, it reinforces our project of giving a specific university degree in the Building field.

Finally, IAHS and UC are deeply grateful to all who have made this 37<sup>th</sup> Congress possible: Sponsors, Collaborators Entities, Keynote speakers, Scientific Committee, Authors who have submitted their Papers and Congressmembers in general. Thank you very much, again, everybody.



**Prof. Oktay Ural**

President of the International  
Association for Housing  
Science (IAHS)



**Prof. Luis Villegas**

World Congress Chairman  
Full Professor. University of  
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- D. Justo Barreda. Director of Cultura of the Government of Cantabria.
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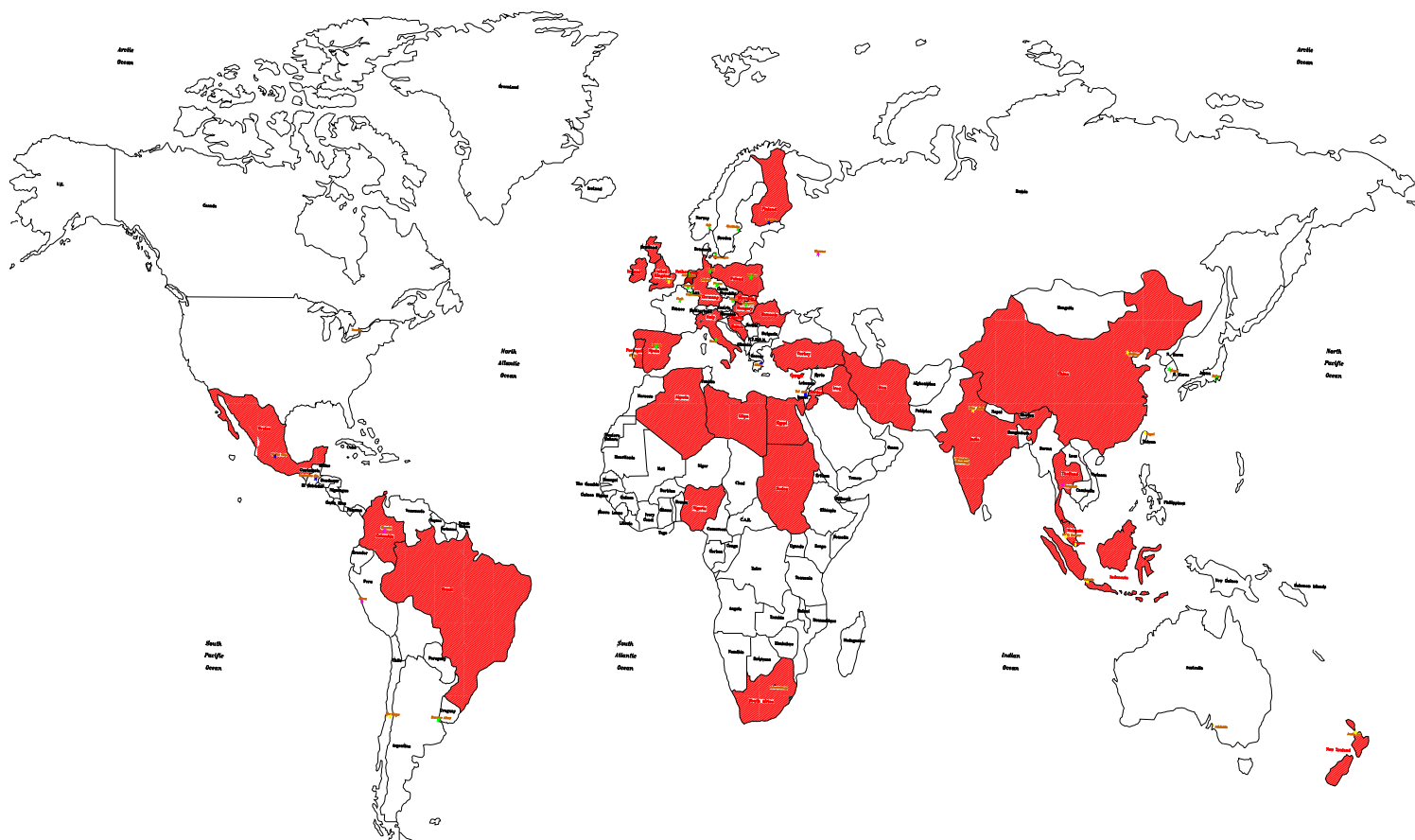
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## 7. PAPERS - STATISTICS

Papers in the 37<sup>th</sup> IAHS World Congress of Housing: Stder.SPAIN, Oct. 2010

| CONTINENT        | COUNTRIES that send Papers | Nº total of Papers received | Country   | Nº Papers |
|------------------|----------------------------|-----------------------------|-----------|-----------|
| EUROPE           | 16                         | 269                         | Spain     | 135       |
|                  |                            |                             | Portugal  | 45        |
|                  |                            |                             | Italy     | 39        |
|                  |                            |                             | Turkey    | 15        |
|                  |                            |                             | Slovakia  | 11        |
|                  |                            |                             | Others    | 24        |
| AFRICA           | 6                          | 19                          | Egypt     | 6         |
|                  |                            |                             | Nigeria   | 6         |
|                  |                            |                             | Others    | 7         |
| AMERICA          | 3                          | 10                          | Brasil    | 5         |
|                  |                            |                             | Mexico    | 4         |
|                  |                            |                             | Colombia  | 1         |
| ASIA and OCEANÍA | 10                         | 16                          | India     | 4         |
|                  |                            |                             | Irak      | 2         |
|                  |                            |                             | Iran      | 2         |
|                  |                            |                             | Indonesia | 2         |
|                  |                            |                             | Others    | 6         |
| <b>TOTAL</b>     | <b>35</b>                  | <b>314</b>                  |           |           |



## 8. TOPICS - STATISTICS

### TOPIC I: MATERIALS AND METHODS OF CONSTRUCTION

New materials and composites  
Old materials with new uses  
Wood. Factories of stone and brick.  
The traditional methods of construction  
Innovating methods of construction  
Use of local materials

### TOPIC II: DESIGN FOR SUSTAINABILITY AND REFURBISHMENT

Criteria of design  
Use of the renewable energies  
Buildings of low power consumption.  
Using natural resources  
Refurbishment policies in cities  
Environmental studies.

### TOPIC III: SOCIOCULTURAL ASPECTS OF HOUSING PROJECTS

Social buildings  
Financing systems  
Participation of users  
Supply of houses

### TOPIC IV: HEALTH, COMFORT AND SAFETY POLICIES

The quality of the air in the interior  
Inner microclimate  
Systems of protection against fires  
Toxicity of the construction equipments  
Use of the power natural resources in the house  
Control of the atmospheric contamination

### TOPIC V: DESIGN FOR HOUSE PROJECTS

Criteria of design  
Methods and materials  
National and international legislation  
Earthquakes resistant buildings

### TOPIC VI: URBAN AND CITY PLANNING. TRANSPORT POLICIES.

Mountainous zones.  
The urban infrastructure. Water resources management.  
Planning of the sustainability

Topographic systems  
Ecological establishments  
Policies of house of the European Union  
Policies and programs of house for construction of the nation.  
Transports in cities.

### TOPIC VII: ECONOMY AND FINANCING POLICIES

Measures of support to the private economy  
Governments supporting the economy  
Public and deprived companies  
Investment funds.

### TOPIC VIII: MANAGEMENT SCHEMES AND MAINTENANCE

Criteria of design  
Management of the maintenance  
Management of facilities  
Management of the constructive process  
Quality, Environment and Prevention of Labor Risks  
Techniques, equipment and materials  
Renovation and new ideas of management

### TOPIC IX: BUILDING TECHNOLOGY AND CONSTRUCTION: STRUCTURES, SERVICES AND CLADDINGS.

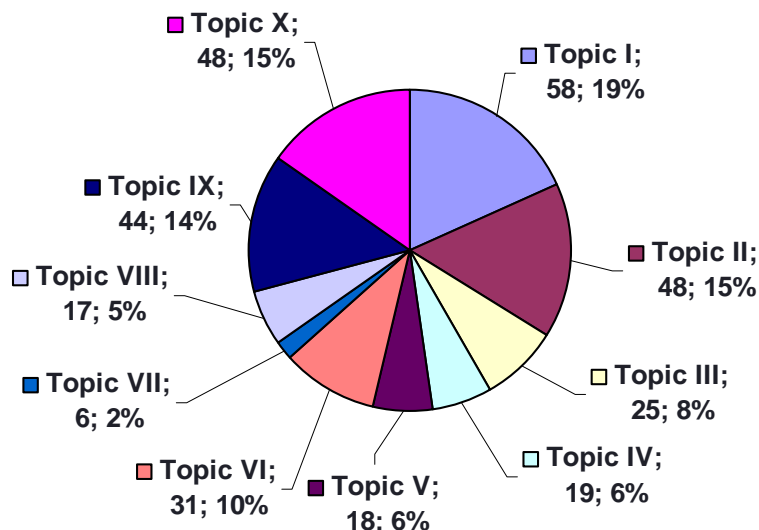
Technological bases and concepts.  
Evolution of the technology in the construction.  
Industrialization and precast solutions. Intelligent buildings.  
Technology of structures and geotechnic.  
Services, equipment and facilities: Heating, air conditioning, lifts, electrical, plumbing, sewage, telecommunications, etc.

Technology of claddings and finished closings.

### TOPIC X: PATHOLOGY AND REHABILITATION

Historical and archaeological studies of the patrimony.  
Pathology of the construction  
Technologies in the refurbishment.  
Investigation and diagnose of damaged constructions.  
Non destructive technologies in the buildings investigation

Figure:  
PAPERS FOR EACH TOPIC  
(Topic i; n° papers; %papers/total)



## 9. CONFERENCE VENUE

World Congress will take place in the Magdalena's Peninsula, Santander (Spain)



The Royal Palace of *La Magdalena* is the most emblematic building of Santander, it has not a defined style though it is catalogued like "eclectic picturesque", a mixture of English and French styles with incorporation of typical elements of the "Montañesa's" architecture (Cantabria's typical architectural style). It is located in the Peninsula of the same name, which has an extension of 28 hectares.

On August 4th, 1913 Their Majesties arrived to take possession of the new palatial residence. The Kings spent the summer in Santander for 17 consecutive years until 1930. Alfonso XIII found in our city the best place to practise his favorite sports, sailing and hunting. Also he used to play tennis and since 1915 with the inauguration Pole Field, he started to practise this sport in La Magdalena. The Royal "Caballerizas" are from the same year.

The press registered daily the "Veraneo Regio" ("Royal Summer"), informing about the life and activities of the Royal Family who frequented the beaches of El Sardinero, famous internationally for the "Baños de Ola" (Bath of Waves). In this beach the Royal family installed "La Caracola" ("The Shell"), a shed where the whole family was almost daily. Meanwhile in the Palace, there were celebrated numerous activities of great resonance and meetings with some Ministers' Councils



During their summer visits, The Kings inaugurated different official centers, as the Municipal Library or the Mercantile Bank, and they were interested in the problems of the city, where

the Spanish aristocracy used to come to spend the summer too. El Sardinero and surroundings suffered a great transformation with the construction of neighborhoods and houses for these new people. At the same time there were inaugurated the "Hotel Real" (Royal Hotel), the new Great Casino of El Sardinero, one of the most ancient of Spain and Bellavista's Racetrack that turned into the center of leisure and culture of Santander in that time.

In the 20's the International Summer Courses of Santander were created and in 1932 the International University of Santander, this one was celebrating the courses at the Auditorium that was constructed for this effect and the "Caballerizas" remodelled as students' residence since 1933, his first rector was Menéndez Pidal.

In the courses the most prestigious figures of the Spanish intellectuality of those years took part and besides the Profesors and Lecturers, the guests were numerous, as Prof. Miguel Unamuno or Federico García Lorca. This last one came with his theatre group "La Barraca" and had special resonance for his interpretations of the university theatre. These representations took place out of the "Caballerizas".

After a parenthesis due to the Spanish civil war it was necessary to wait until 1949 to reinstall The Palace the Summer courses of the International University named from this date "Menéndez Pelayo" (UIMP).



In 1977 the City Hall of Santander, by an agreement with the Count of Barcelona, recovered the Royal place of La Magdalena and from this date the park remains opened for the public, being the place most visited of the city of Santander.

In 1982 the palace was declared "historical artistic monument" and in December 1993 began the works of rehabilitation of the buildings of La Magdalena. Works that were finished in 1995 and inaugurated by His Majesties Mr. Juan Carlos and Mrs. Sofía on June 14<sup>th</sup> of the same year. Since then La Magdalena has been used as a Conference and Meetings hall though it continues preserving in its lounges and classrooms the charm recognized by those who visit them.

The Magdalena's site exhibition has two areas, in the first of them there are three perfectly equipped rooms: Two of them have a capacity of 50 people while the third has enough space to house 70.

The Auditorium, the only building of the facilities that still maintains the purpose for which it was built, is presented as an attractive hall for meetings with a capacity for 328 people.





## 10. CONGRESS SCHEDULE

| Day<br>Hour                           | Tuesday<br>October 26  | Wednesday<br>October 27  | Thursday<br>October 28   | Friday<br>October 29                 |
|---------------------------------------|--|--|--|--------------------------------------|
| 8 <sup>h</sup> 00–8 <sup>h</sup> 30   | Distribution of documentation  |  |  |                                      |
| 8 <sup>h</sup> 30–10 <sup>h</sup> 00  | <b>Plenary sessions (Auditorium)</b>   | <b>Plenary sessions (Auditorium)</b>   | <b>Plenary sessions (Auditorium)</b>   | <b>Post-congress trip (Optional)</b> |
| 10 <sup>h</sup> 00–11 <sup>h</sup> 15 | Coffe Break<br><b>OPENING (Auditorium)</b>   | Coffe Break  | Coffe Break  |                                      |
| 11 <sup>h</sup> 15–13 <sup>h</sup> 15 | Auditorium (Topic X)<br>Room 1 (Topic II)<br>Room 2 (Topic III)<br>Room 3 (Topic VIII)                 | Auditorium (Topic IX)<br>Room 1 (Topic I)<br>Room 2 (Topic II)<br>Room 3 (Topic VI)                | Auditorium (Topic X)<br>Room 1 (Topic I)<br>Room 2 (Topic IX)<br>Room 3 (Topic V)                                  |                                      |
| 13 <sup>h</sup> 15–15 <sup>h</sup> 15 | Lunch  | Lunch  | Lunch  |                                      |
| 15 <sup>h</sup> 15–16 <sup>h</sup> 30 | Auditorium (Topic X)<br>Room 1 (Topic II)<br>Room 2 (Topic III)<br>Room 3 (Topic IV)                   | Auditorium (Topic IX)<br>Room 1 (Topic I)<br>Room 2 (Topic II)<br>Room 3 (Topic VI)                | Auditorium (Topic X)<br>Room 1 (Topic I)<br>Room 2 (Topic IX)<br>Room 3 (Topic V)                                  |                                      |
| 16 <sup>h</sup> 30–16 <sup>h</sup> 45 | Coffe Break  | Coffe Break  | Coffe Break  |                                      |
| 16 <sup>h</sup> 45–18 <sup>h</sup> 30 | Auditorium (Topic X)<br>Room 1 (Topic II)<br>Room 2 (Topics III y I)<br>Room 3 (Topics IV, VII and IX) | Auditorium (Topics IX and X)<br>Room 1 (Topic I)<br>Room 2 (Topics II y VIII)<br>Room 3 (Topic VI) | Auditorium (Topics X and VII)<br>Room 1 (Topic I)<br>Room 2 (Topics IX, VII and I)<br>Room 3 (Topics V, IV and II) |                                      |
| 18 <sup>h</sup> 45–19 <sup>h</sup> 30 | <b>Reception cocktail</b> by the Mayor of Santander  | Reception by the Minister of Tourism of the Cantabria Government<br><b>(Music recital)</b>         | <b>CLOSSING (Auditorium)</b>   |                                      |
| 21 <sup>h</sup> 00                    |  |  | <b>GALA DINNER</b>   |                                      |

## 16. SOCIAL PROGRAM

| Day  | Tuesday<br>October 26   | Wednesday<br>October 27  | Thursday<br>October 28   | Friday<br>October 29   |
|--|---|--|--|--|
| <b>Hour</b>  |   |  |  |  |
| <b>Morning</b><br>9 <sup>h</sup> 30–13 <sup>h</sup> 30 | Trip A:<br><b>Maritime Museum</b><br><b>Pedreña</b><br>(Only for companions)  | Trip B:<br><b>Castillo's caves</b><br><b>Puente Viesgo</b><br>(Only for companions)  | Companions:<br><b>Free time</b><br>(shopping, etc.)                |  |
| <b>Afternoon</b>                                       | <b>18<sup>h</sup>45–19<sup>h</sup>30</b><br><b>Reception cocktail by</b><br><b>the Mayor of Santander</b><br>at the Magdalena's<br>Palace | <b>18<sup>h</sup>45–19<sup>h</sup>30</b><br>Reception by the<br><b>Headmaster of Tourism</b><br><b>of the Cantabria</b><br><b>Government</b><br><b>Music recital</b> | <b>21<sup>h</sup>00</b><br><b>Gala dinner at the</b><br>Real Hotel | <b>Post-</b><br><b>congress</b><br><b>trip</b><br>(Optional) |

## TRIP A: MARITIME MUSEUM + PEDREÑA (ONLY FOR COMPANIONS)

### Tuesday October 26th: Maritime Museum - Pedreña



#### 9:00 Departure from Hotel

#### 9:30 Maritime museum visit

In the heart of Santander's bay, on the seashore, this museum offers to the visitor one of the richest and most assorted oceanographic collections in Spain, related with the sea and men who daily work hard in it.

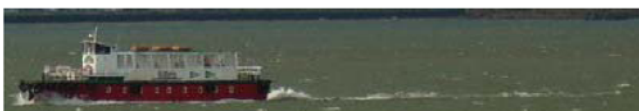
It has a large and modern aquarium and more than three thousand square meters of exhibition area, where all different forms of men's relationship with the sea throughout history are shown.



#### 11:30 Coffee break

#### 12:45 Departure from quay

Departure from Santander's quay, towards Pedreña, on a boat trip around the bay, where you will admire some of Santander's beaches as El Puntal and Somo.

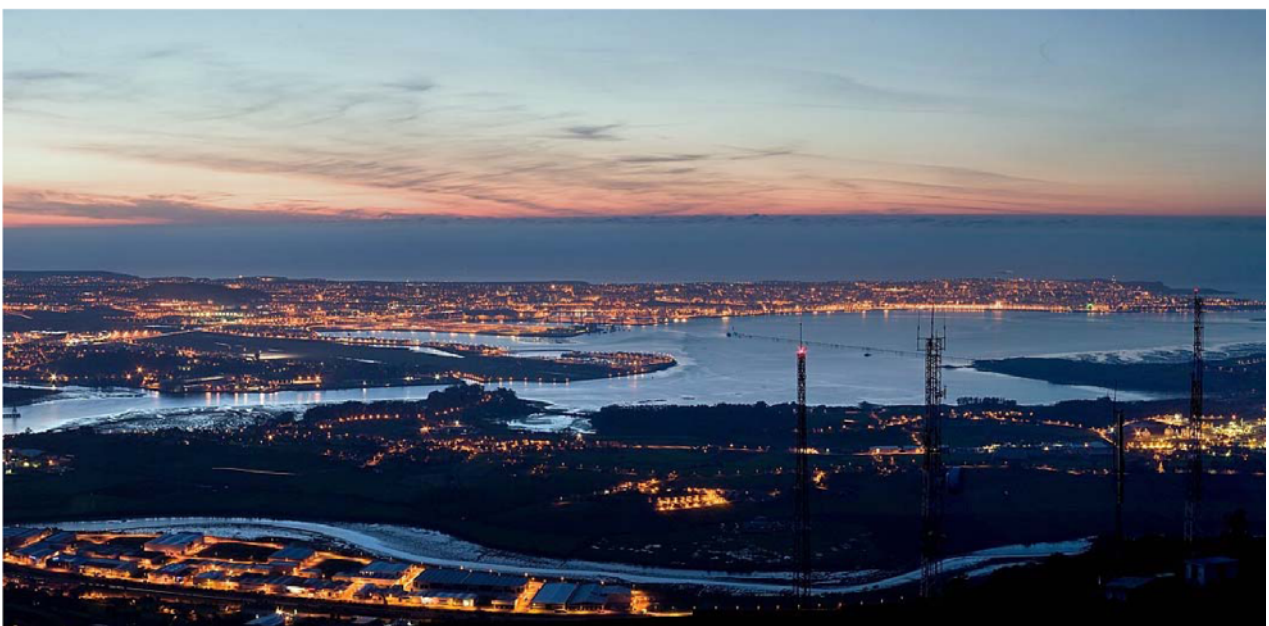


## 12:35 Arrival to Pedreña

Stop at Pedreña's Golf Course visiting the famous Hole 14. From here you will enjoy one of the most beautiful views of Santander and its bay.



## 13:00 Back to Santander



## RECEPTION COCKTAIL BY THE MAYOR OF SANTANDER

**October 26, 2010**



On October 26<sup>th</sup>, at 18:45 there will be a cocktail reception by the **Mayor of Santander D. Iñigo de la Serna**. This event will welcome participants to Santander, by the highest political authority of the city. Besides, the Congress participants will be invited to a Spanish wine.



The event will take place at many rooms of the **Magdalena's Palace**, which are perfectly equipped for this type of events and have sufficient capacity to accommodate the large number of attendees at this forum.



## **TRIP B: CASTILLO'S CAVES + PUENTE VIESGO (ONLY FOR COMPANIONS)**

### **Wednesday October 27th: Puente Viesgo**



#### **9:00 Departure from Hotel**

#### **9:45 Castillo's Caves visit**

At the river Pas' bank, as it passes through Puente Viesgo, rises the Monte Castillo, a cone-shaped limestone mountain which contains a labyrinth of caves frequented by humans 150,000 years ago. In five of these caves you can find Paleolithic art, being the El Castillo the most important one. Discovered by H. Alcalde del Río in 1903, and being object of numerous archaeological works, its results helped Scientifics to understand human development and behavior during the prehistory in the southwest of Europe.

These caves house one of the most important Paleolithic sites in the region. That's why they are included in the list of World Heritage of UNESCO since July 2008, within the site "Altamira cave and Paleolithic Cave Art in Northern Spain"



#### **10:30 Coffee break at Puente Viesgo's Spa**





**11:30 Stroll through the beautiful village of Puente Viesgo**

**12:30 Back to Santander**

**13:00 Arrival to Santander**



## RECEPTION BY THE HEADMASTER OF TOURISM OF THE CANTABRIA GOVERNMENT

FOLK MUSIC RECITAL

**October 27, 2010**

On October 27<sup>th</sup>, on completion of the day sessions, in the **Caballerizas' main auditorium** there will be a brief **presentation of Cantabria, its attractions**, as well as the highlights of this region as a sample of the idiosyncrasy and culture of the "montañesa" culture.



The presentation will be given by the Mr. Francisco Javier López-Marcano, **Headmaster of Culture, Tourism and Sport of the Government of Cantabria**. After his speech, the event will be enlivened by the University of Cantabria's Camerata Chorale.

The **University of Cantabria's Camerata Chorale** has over 30 years' experience performing music of diverse styles.



As an example of their works it can mentioned the premiers of several Spanish Cathedral's choirmasters: Jose de Nebra, Enrique de Villaverde, Jeronimo de Carrion, Miguel de Irizar, Juan Ezequiel Fernández, Manuel Ibeas, Miguel de Ambiel, Cristobal Medrano (Magister Cantabriensis) and, in particular, Juan Antonio García de Carrasquedo first choirmaster at the Cathedral of Santander. They have also performed premiers of some pieces from XX<sup>th</sup> century as the "Incidental Music for Prometheus' Mother" by the compose from Cantabria Juanjo Mier, or the Spanish premiere in 2006 of the Jean Langlais' "Messe Solennelle".



Among their performances you can find programs dedicated to the sacred music by the Bach family, choral music of the Romanticism, Spanish religious music, music for the funeral of Queen Mary and a long etcetera.

There are many groups that have collaborated with the UC Camerata Chorale, among others, the Basel Camerata Musicale, The Baroque Orchestra of The Royal College of Music, Les Nations Amsterdam, Pro Musica Antiqua of Madrid, the Orchestre Baroque de Montauban, the Chamber Orchestra Arriaga of Bilbao, Asturias Symphony Orchestra, RTVE Symphony Orchestra and some prestigious instrumentalists and vocal soloists.



They perform regularly in major historical buildings, cathedrals (Santiago, Burgos, Salamanca, etc..), and theaters in the country (Teatro Real de Madrid, Arriaga de Bilbao, Real Coliseo Carlos III of El Escorial, etc.) as well as on the more prestigious international music festivals, Santander, Segovia, Cuenca, or Monaco, being the first Spanish group participating in this final. Abroad, they have performed concerts in England, Belgium, France, Monaco and Italy. Their work has been included in many recordings for RNE RTVE (Radio 2 Classic) and two discs devoted to the Cathedral of Santander Precentor, one of them being awarded with the National Prize of Disco. They have also collaborated on the Pepe Santos' disc Crossroads.

In their resume, we can find awards such as First Prize (Lira de Oro) and Special Prize of the public of the 43rd Competition of Marinera Song in San Vicente de la Barquera, Bronze Lira in the 41st edition of this same competition, special prize of the public and Second Prize in the National Competition Choirs Rivas-Vaciamadrid and 2nd Prize at the 26th International Choral Festival in Villa de Avilés.

Having been founded and directed by Lynne Kurzeknabe, was directed by Alfonso Manso and M<sup>a</sup> del Mar Fernandez Doval, and since September 2004, the Camerata began a new era under Raúl García Suárez's leadership.

**Día 28 de Octubre**



Passing through the wrought iron gates (witnesses themselves of thousands of welcomes and farewells over nearly 90 years of history) and passing through the lime and maple trees, you will discover the Hotel Real. It is an imposing white building and is itself an historic piece, which was inaugurated in 1917. The hotel was an initiative of Alfonso XIII and where the royal court stayed during the summer in Santander, at the time when a new fashion started: The “Baños de Ola” festival, which from this time has become one of the city’s most important events.



Having entered the hotel, if visitors pause for a moment, they will find a variety of spacious and bright salons, with nooks crossed by sunlight which plays with the shadows. Here guests will be able to relax, chat, read or just simply find a comfortable armchair in which enjoy the beauty of the bay of Santander.



In this Hotel will take place the congress closing dinner in the late evening of October 28<sup>th</sup>. The dinner will take place in one of the Hotel Real’s fabulous rooms, depending on the number of attendees. Before dinner, congress assistants would be able to go for a walk through its spaces or lounges, or enjoy quite time in one of the terraces.

The **coffe time after dinner** will be entertained by the **quartet “ARIÓN”**. This band consists of four components: the Santana-Revilla Brothers (Rafael, M<sup>a</sup> Ángeles and Rocío) and Rafael Ordaz.

Rafael Santana-Revilla was born in Santander in 1977. He grew up in a musical environment receiving his first lessons from his father, his first teacher. In his classical training stage, he studied at the conservatories of Santander, Oviedo and Bilbao. In 2001 he became “Superior Professor”. His interest in "other types of music" led him to start as self-tought and later continue with teachers such as Iñaki Salvador, Joan Díaz, Albert Bover, Andrej Olejnizack, Guillermo Klein, Iñaki Askunze, etc. In 2007 he finished his degree in Jazz Piano by the “Centro Superior de Música” of the Basque Country - MUSIKENE. He has been involved in different projects at festivals such as the International Jazz Festival in San Sebastian in 2004 and 2008, the Jazz Nights at the IX International Jazz Seminar in Zarautz or the ISME (International Society for Music Education) Congress held in Tenerife in 2004. In 2003 he won the Juvecant Youth Music Competition in the modality of jazz-fusion. In July 2009 he participated as a lecturer at the 6<sup>th</sup> Workshop Improvisation in Siero (Asturias). He has performed with musicians such as Andrej Olejnizack, Miguel Fernandez, Victor Merlo, Carlos Carly, Iñaki Askunze, among others. He has composed music for theatre, cinema and advertisements for the radio. Whilst developing his job as piano, harmony and combo professor at the University of Cantabria and at the Municipal Music School in Santa Cruz de Bezana (Cantabria).



M<sup>a</sup> Ángeles Santana-Revilla was born in Santander in 1980. After receiving her first music lessons from his father, she entered in the "Jesus de Monasterio" Music Conservatory and she continued her studies at the "Juan Crisostomo de Arriaga" Superior Music Conservatory in Bilbao, where she was taught by Freyr Sigurjonsson and Mario Clavel, and where she achieved Honorable Mention when she finished her Superior Flute Studies. She has received lessons from teachers such as Jose Luis Estelles, Juan Carlos Chornet and Bruno Claverie among others. She currently combines teaching with giving concerts. She has performed with the Lyric Orchestra Association Instrumental Group of Santander, the Astillero-Guarnizo Choir, the wind quintet "Santander", the duet "Novus" and the duo "Luna-Sunyer".

Rocío Santana-Revilla was born in Santander in 1983. Her father was her first music teacher and later she studied music at the “Jesus de Monasterio” Music Conservatory in Santander, obtaining the degree of Violin Professor. While studying Psycopedagogy in the University of Cantabria, she took several specialization courses in violin. Interested in linking music with other arts, she has collaborated in performances related to poetry, drama and dance. Stressing Beaterias show, in which she worked as a violinist for La Machina Theatre Company. She currently combines teaching in a school in Santander with performing concerts.

Rafael Ordaz-Hernando, born in Bilbao. He began his studies with Professor Ana Ispizua in Bilbao, continued with Jerzy Andrezjack and finished his Superior Music Studies with Roman Jablonsky, in San Sebastian. He has been taught by teachers such as Angel Luis Quintana and Alexander Osokin among others. He has also participated in various formations as the Youth Orchestra of Euskadi, Bilbao's Municipal Band and more recently with the Symphony Orchestra of Burgos. He has been taught at several Music Conservatories in Spain as the Jesus Guridi in Vitoria and the Xan Viaño in Ferrol. He currently works as cello professor at the Conservatory of Torrelavega.

## *POST-CONGRESS TRIP (OPTIONAL)*

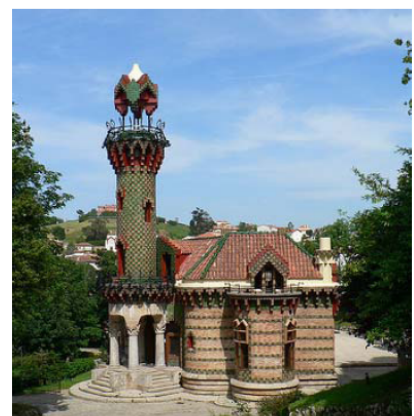
### **POST-CONGRESS TRIP (OPTIONAL)**

#### **Friday October 29th: Comillas – Santillana del Mar**



#### **9:30 Departure to Comillas**

We will visit this noble town, with rich artistic and architectural heritage: Universidad Pontificia, its old quarter, one of the best preserved in Europe, and the Sobrellano's Palace which was the work of the architect from Catalonia Joan Martorell who built it by order of the first Comillas' Marquis, Antonio López y López, finishing the work in 1888. This magnificent neo-gothic style building with Venetian air is a rectangular shape building and has inside Antonio Gaudi's furniture and Eduardo Llorens' paintings, and outside there are Joan Roig's sculptures.



#### **11:30 Coffee Break**

## 12:00 Departure to Santillana del Mar



Visit of the town declared Historic Artistic Collection: Colegiata de Santa Juliana, considered the jewel of Romanesque in Cantabria. We will go on a walk through the streets with its medieval atmosphere, and its noble buildings of civil architecture where the rural and the ancient Cantabria styles meet, and where there are famous shops offering the traveler ceramics, handicrafts, antiques ... as well as typical products from Cantabria.

## 13:00 Visit to Altamira's Neocave

This museum represents a wonderful reproduction of the original caves. Altamira has received many praises, recognizing it as a jewel of prehistory in the world.



## 15:00 Lunch at Santillana

## 17:00 – 17:45 Back and arrival to Santander



