



# CHINESE-CROATIAN JOINT COLLOQUIUM



Brijuni Islands – Croatia  
10-14 July 2008

## PRELIMINARY AGENDA (1 July 2008)

### THURSDAY – 10 JULY 2008

Visit to Krk Bridge (departure from and return to Brijuni Islands)

### FRIDAY – 11 JULY 2008

10:00-12:00	Opening session
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12:00-13:30	Welcome cocktail
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13:30-19:00	Technical session
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### SATURDAY – 12 JULY 2008

9:00-13:30	Technical session
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13:30-15:00	Lunch break
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15:00-19:00	Tour of Brijuni Islands
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### SUNDAY – 13 JULY 2008

Tour of Istria (return to Brijuni Islands)

### MONDAY – 14 JULY 2008

Visit to Maslenica & Skradin Bridges (end of colloquium)



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Brijuni Islands – Croatia  
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**THURSDAY – 10 JULY 2008**

Visit to Krk bridge (repair & rehabilitation works), by coach



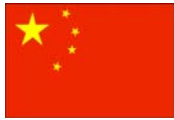
Krk Bridge consists of two large reinforced concrete arch spans providing a fixed road link to the Island of Krk. The bridge was constructed using an innovative method in which concrete spandrel columns, temporary steel tension tie top chords and diagonals were combined to form a truss. With a span of 390 m the Krk bridge is still the largest conventional reinforced concrete arch span in the world, 28 years upon its completion. The span of the smaller arch is 244 m.

The repair works on the Krk bridge started several years after its completion with installation of laminated bearings and strengthening adjacent structural elements. In the 1990s the works were broadened to include the repair of columns of the smaller arch. The smaller arch has been recently repaired by removal of the contaminated concrete, its subsequent replacement with shotcrete and adding protective coating. The repair of the larger arch presents major challenge to bridge engineers. The arch is supported on submerged inclined struts. After many years of research and testing various corrosion protection systems, cathodic protection method was selected for this part of the structure.

The technical visit to the Krk bridge will be guided by engineers involved in repair & rehabilitation project.



Return to hotel on Brijuni Islands



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**FRIDAY & SATURDAY – 12 & 13 JULY 2008**

## TECHNICAL PROGRAMME

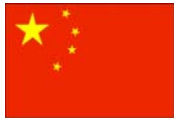
### *Keynote papers:*

- *Jure Radić, Alex Kindij, Ana Mandić (Croatia):* Concrete application history in development of concrete and hybrid arch bridges
- *Baochun Chen (China):* Long span arch bridges in China
- *Jiří Stráský (Czech Republic):* Stress-ribbon pedestrian bridges supported or suspended on arches
- *Enzo Siviero (Italy):* Arch bridges – personal experience

### *Technical contributions to be presented:*

- *B. Chen & L. Ye:* An overview of long span concrete arch bridges
- *Z. Šavor & J. Bleiziffer:* Long span concrete arch bridges of Europe
- *B. Xie:* Wanxian long span concrete arch bridge over Yangtze River in China
- *B. Chen & Q. Huang:* Research on concrete arches with steel webs
- *J. Beslač, D. Tkalčić & K. Štemberga:* Difficulties and successes in the maintenance of Krk Bridge
- *J. Radić, Z. Šavor, J. Bleiziffer & I. Kalafatić:* Šibenik Bridge – design, construction and assessment of present condition
- *Z. Šavor, N. Mujkanović & G. Hrelja:* Design and construction of Krka River Arch Bridge
- *J. Radić, Z. Šavor, V. Prpić, M. Friedl & Ž. Žderić:* Design and construction of the Maslenica Highway Bridge
- *Z. Šavor, N. Mujkanović, G. Hrelja & J. Bleiziffer:* Reconstruction of the Pag Bridge
- *S. Bai, J. Zhou & B. Chen:* Long span reinforced concrete arch bridges in Yunnan, China
- *J. Zhang & H. Liu:* Research on closure scheme of long-span box arch bridge
- *B. Pei, R. Cao, D. Nie & G. Xiong:* Review of cantilever casting method for long span reinforced concrete arch bridge
- *W. Li, J. Lv, J. Zhang & J. Song:* Optimization of cable forces during cantilever construction for arch bridge
- *Ž. Žderić, A. Runjić & G. Hrelja:* Design and construction of Cetina Arch Bridge

- *J. Radić, J. Bleiziffer & I. Kalafatić*: Structural health monitoring of large arch bridges in Croatia
- *Z. Zong & Z. Xia*: Field testing and performance evaluation of a reinforced concrete box arch bridge
- *H. Ren, W. Li, J. Zhang & H. Chen*: Inspection and design suggestion on rigid-frame arch bridge
- *Z. Zhou, F. Li & R. A. Imbsen*: Development of an accelerated construction method for a chorded arch bridge
- *C. Li, G. Zeng & Y. Liu*: Determination of reasonable construction states of special-shaped tied-arch bridge
- *Ž. Žderić*: Cantilever erection of arch bridges
- *Ž. Žderić*: Equipment for erection of arch bridges
- *Z. Šavor & J. Bleiziffer*: From Melan patent to arch bridges of 400 m spans
- *B. Chen*: New development of long span CFST arch bridges in China
- *T. Mou*: The largest CFST arch bridge in the world – Wuxia Yangtze River Bridge
- *Y. Han, J. Wang & Z. Feng*: Two span cable crane in erection of large scale arch bridges
- *Q. Wu & B. Chen*: Construction monitoring of Xiyangping Bridge in Zhangzhou, China
- *J. Wei & B. Chen*: Design and field test of Baqihu Bridge in Quanzhou City, China
- *J. Gao & B. Chen*: Experimental research on CFST model arch with corrugated steel web subjected to asymmetric load
- *X. Duan*: Design of main bridge of Chaotianmen Yangtze River Bridge
- *Z. Xiang, X. Zhang, B. Du, J. Mao & H. Yu*: Study on erection control scheme for long span steel arch bridge and its application on Chaotianmen Yangtze River Bridge
- *Y. Guiping*: Key technology for design of Lupu Bridge
- *Y. Li, J. Zhang, P. Huang & B. Yan*: Design and construction of a rigid-frame steel truss arch bridge
- *X. Liu*: Design and construction of Caiyuanba Yangtze River Bridge in Chongqing
- *Z. Tian & L. Zhang*: Construction and construction monitoring of steel box arch bridges
- *Z. Šavor, G. Hrelja & M. Franetović*: Jarun steel tied-arch bridge in Zagreb – a competition entry
- *B. Briseghella & T. Zordan*: Twelve network arch bridges in Abu Dhabi
- *J. Radić & M. Kušter*: Structural art in steel, concrete and stone – arch bridges designed by Kruno Tonković



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**SATURDAY – 12 JULY 2008**

## Tour of Brijuni Islands National Park



Brijuni Islands archipelago, a necklace of islands and islets, stretching on the west from the Istrian peninsula boasts of its luxuriant Mediterranean vegetation and rich submarine world. The allure of their beauty was equally strong in Roman times, as testified to by the remains of a Villa Rustica and a fortified castrum from Byzantine period. At the beginning of the 20<sup>th</sup> century it became a park-like tourist area for European aristocracy. In 1983 the Brijuni Archipelago was declared a national park and finally opened to visitors. We will tour the island of Veliki Brijun its amazing safari park inhabited by rare animals: zebras, antelopes, elephants, gazelles and llamas, the former summer residence of Josip Broz Tito visited by many world leaders at a time and numerous archeological sites. Finally, don't forget to take your swimsuit as there are some lovely bays just perfect for a quiet swim.





# CHINESE-CROATIAN JOINT COLLOQUIUM



Brijuni Islands – Croatia  
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**SUNDAY – 13 JULY 2008**

Tour of Istria cultural & historical sites, by coach



[Istria](#) is the westernmost county of the Republic of Croatia and the largest peninsula of the Adriatic, gently tucked between the Gulf of Trieste and Bay of Kvarner.

Istria is indeed a feast for the eyes. Its streams flow to the sea through deep valleys and gullies which bring to mind the ancient local myths about giants. Rolling hills overlook the fields and valleys with little towns perched on the peaks, recalling some old paintings. The view is splendid: white-topped mountains, lush wheat fields, plateaux, valleys, vineyards and olive groves on hillsides, and, finally the sea.

As you get to know Istria you will notice more and more enchanting details: church facades and portals, tiny village alleyways with their specific architectural touches, the babble of a stream, the blossoming cherries. Everything is warm-hearted and friendly here: nature, towns and people.



### **Pula**

Situated near the base of the Istrian peninsula Pula is the largest city in Istria. One of the most famous sights in the whole of Croatia is the Roman amphitheatre in Pula, which has been well preserved. Built during the 1<sup>st</sup> century AD, the three-story amphitheatre is the sixth largest in the world. Other sights include the Triumphal arch of the Sergii, the Temple of Augustus, the Cathedral and the Franciscan Church and Monastery.

### **Porec**

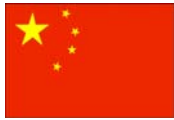
Old town (Porec is 2,000 years old) is famous due to its numerous historical sites, particularly the 6<sup>th</sup> century Euphrasian Basilica which is wonderfully preserved and is well known for its beautiful gold mosaics.

### **Rovinj**

This is a charmingly picturesque town with yet more narrow, cobbled streets! It is famous for its St. Euphemia Cathedral with the highest church tower in Istria, at 60 metres high. Rovinj was originally an island, but 250 years ago the narrow channel, which separated it from the mainland, was filled in. It is one of our favourite destinations on the Croatian Adriatic, particularly as it is very lively with numerous cafes and restaurants, galleries and an active fishing port.



**Return to hotel on Brijuni Islands**



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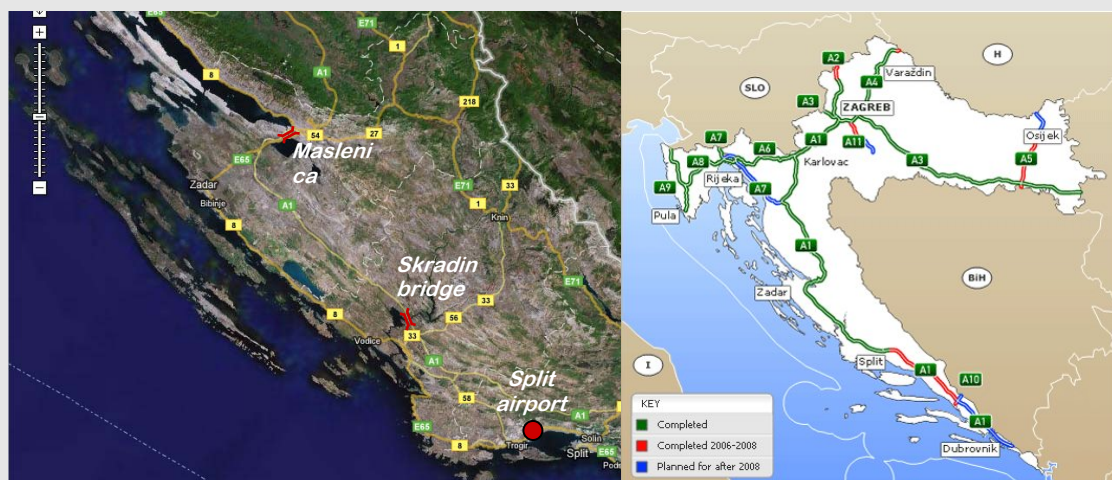
**MODAY – 14 JULY 2008**

Visit to Skradin and Maslenica bridges, by coach

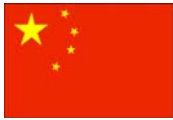


The 200-m span Maslenica bridge was completed in 1997. The superstructure comprises eight simply-supported precast prestressed girders made continuous over supports by utilizing non-prestressed reinforcement and interconnected by a 25-cm thick concrete deck plate cast-in-site, with cross girders provided only at supports. The arch of the Skradin bridge spans 204 m with a rise of 52 m and is of double-cell box cross-section. 22.56-m wide superstructure is composed of steel girders and reinforced concrete deck-plate. This enabled omitting the cap beams on columns and reducing the arch cross-section, resulting in 35% less mass of the Skradin bridge when compared to the Maslenica bridge. Skradin bridge was opened to traffic in 2005.

Both bridges are on major A1 motorway route, connecting two largest Croatian cities – Zagreb and Split. Technical visit to Maslenica and Skradin bridges will be guided by chief design engineer.



End of Colloquium (return to Zagreb)



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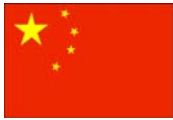


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## LOCATION

Brijuni are a group of two larger and twelve smaller islets along the West coast of Istria, near Pula, with the total area of only 7 km<sup>2</sup>. Both archipelago and the surrounding sea are under protection. The Brijuni Archipelago is known for its preserved Mediterranean vegetation, which is partly landscape and partly a safari park. The archipelago is noted for its valuable cultural heritage from the Roman and Byzantine times. Due to its extraordinary beauty, the Brioni Islands have been, for over a hundred years now, a favourite tourist destination of world statesmen and aristocracy.





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## ARRIVAL TO BRIJUNI

[Brijuni islands](#) are reached by [boat](#) (sailing time 15 min, service free of charge for the hotel guests) from a small town [Fazana](#) (across the island on the mainland). Boat passengers are disembarked in front of the hotel Neptun, where is the main reception desk for the hotels Neptun, Istra and Carmen. The technical sessions are held in the "Blue Room" of hotel Istra.

### BY PLANE

The main city to reach is Pula from where Fazana is some 7 km away. Pula has [international airport](#) with connections to [Zagreb](#) (Croatian capital) and some European cities (budget and charter flights).

