

*International symposium  
on steel bridges*



*Steelbridge 2004*

**Steel bridges extend structural limits**

MILLAU, France. June 23 – 25, 2004  
Final invitation and registration form

International symposium on steel bridges organised by OTUA

The Steelbridge 2004 symposium is organised by OTUA (The French Technical Office for Users of Steel), and supported by:



**ARCELOR:** As the leading world steel producer, resulting from the merger of three European groups which decided to pool their assets, Arcelor intends to assert itself as a global reference value in the steel industry.

In all its activities, Arcelor proposes innovative steel solutions for all its markets. [www.arcelor.com](http://www.arcelor.com)



**CEVM:** Eiffage, fifth largest company in Europe in the building and public works sector (BTP), has created a new entity, the Compagnie Eiffage du Viaduc de Millau (CEVM), concessionaire of the Millau Viaduct. Through CEVM, Eiffage therefore intends to highlight its ability to conceive monumental, complex structures and to make them operational to ensure their dependability and profitability. In order to be able to supervise the construction of the highest bridge in the world as closely as possible, the Compagnie Eiffage du Viaduc de Millau has based itself in the heart of the town of Millau, thereby contributing to the development of the region.

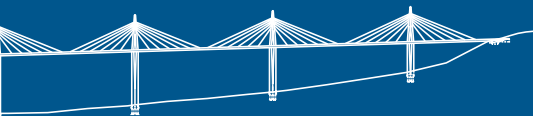
[www.viaducdemillaueiffage.com](http://www.viaducdemillaueiffage.com)



**LA VILLE DE MILLAU:** "The town for the Arts and Artisan Trades". Millau, whose traditional skills are based on work with leather and skins, is also a town known for its cultural activities. Situated in the heart of the Grands Causses Regional Natural Park, the town benefits from magnificent natural surroundings that lend themselves to the practise of all outdoor sports. [www.millau.fr](http://www.millau.fr)



**MADE OF STEEL:** In 2001, eight large European steelmakers formed an association to demonstrate the extent to which steel is part of our everyday lives, and launched an exceptional communication programme on a European scale. The Millau Viaduct could not have been built without steel, which is why Made of Steel has chosen to sponsor this congress. [www.made-of-steel.com](http://www.made-of-steel.com)



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## CONTACTS

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## FOREWORD

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### **Jacques GODFRAIN, former French Minister, Member of the French Parliament and Mayor of Millau:**

OTUA has chosen Millau to hold its important seminar on steel bridges beginning on next June 23.

This event is the logical consequence of the choice, which Millau has supported for a long time: that of giving the A75 motorway an exceptional bridge crossing.

This viaduct is the continuation in history of the international journeys of our ancestors who exported their pottery more than 2,000 years ago from the frontiers of the Roman Empire in Scotland as far as India.

It is in the continuity of the great world trade in leather and skins to which Millau greatly contributed with the manufacture of its gloves.

This congress is part of the great history of those who, over the centuries, have had to go still further so that their history would reflect the movement and progression of men to discover others.

Please be welcome and appreciate, as it deserves, the spirit of hospitality that we like to share.

### **Niels GIMSING, Chairman, Scientific Committee, Technical University of Denmark:**

With the increasing demand for improvement of infrastructures around the world, the size and number of bridges are rapidly growing. At the same time the environmental awareness and the prevention of disasters impose new challenges on bridge builders.

With their ability to overcome longer spans, steel bridges limit the environmental impact and reduce the risk of accidents caused by collisions. Furthermore, the high strength-to-density ratio of steel allows large units to be pre-assembled in favorable locations and transported over long distances. At the construction site, the erection can be based on lifting or launching elements of considerable size so that the amount of time spent in welding on site can be reduced, thereby leading to an early completion. It is, therefore, not surprising that many of the most notable bridges built successfully in recent years are made of steel.

The advancements in bridge technology achieved in the second half of the 20<sup>th</sup> century are in many ways illustrated by the Millau Viaduct.



The use of a multi-span cable-stayed bridge with long spans and few piers reduces the environmental impact and keeps the view through the valley open. The support by central cable spreads and the erection by launching the entire bridge superstructure from the abutments are seen on an unprecedented scale at Millau.

It has for many years been customary to organize international bridge conferences at the locations of major bridge construction sites and the Steelbridge Symposium in Millau forms a natural continuation of this sequence of bridge conferences. Thus, bridge designers and builders from all over the world will be given the opportunity to learn and be inspired by the achievements at Millau.

### **Sylvie PETETIN, President OTUA:**

For a number of years, OTUA has been using its expertise in the fields of bridges and civil engineering structures constructed of steel to regularly distribute its publications "Bulletin of Steel Bridges" and "Bulletin of Steel Structures".

OTUA also shares its experience and skills by organising scientific seminars on the subject of bridges and footbridges.

In 2004, the site for the symposium imposed itself straightaway: the Millau Viaduct, which consecrates steel as the material for exceptional civil engineering structures in our time. OTUA, with the assistance of the Compagnie Eiffage du Viaduc de Millau, will be pleased to introduce you to this exceptional construction site, in a magnificent French region.

This international symposium is the opportunity to bring together specialists from across the world who are working on bridges: contracting authorities, project managers, designers and constructors, in order to examine the possibilities for innovation that steel continues to offer today.

This will be illustrated by numerous examples of the principle types of structures that have been selected as the subject of presentations and posters. The participants at the symposium will thereby benefit from this wealth of exchanges based on solid experience worldwide.

OTUA hopes to count you among the numerous participants expected at the symposium and on the construction site itself of this impressive achievement, a showcase of French expertise in engineering and construction.

We shall be pleased to welcome you with all the traditional French conviviality and hospitality, and to make your stay in Millau enjoyable.



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## SCIENTIFIC COMMITTEE

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**Niels GIMSING**, Technical University of Denmark, Chairman (Denmark)  
**Michel VIRLOGEUX**, Consultant, Vice Chairman (France)  
**Wasoodev HOORPAH**, OTUA, Conference General Secretary (France)

**Jacques BERTHELLEMY**, SETRA (France)  
**Julio MARTINEZ**, MC2 (Spain)  
**Vincent de VILLE de GOYET**, BEG (Belgium)  
**Chris DOLLING**, IISI-CORUS (UK)  
**Joël RAOUL**, SETRA (France)  
**Claude SERVANT**, EIFFAGE (France)

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## ORGANISING COMMITTEE

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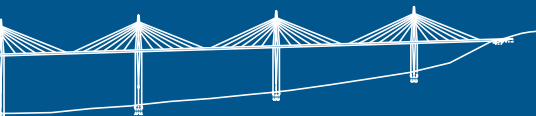
**Joëlle PONTET**, OTUA, organising committee Chairman (France)  
**Valérie DUSSEQUE**, OTUA (France)  
**Marc HEVER**, ARCELOR (Luxemburg)  
**Jean-Pierre JACQUETON**, ARCELOR (France)  
**Michel MULLER**, DH-GTS (France)  
**Sylvie PETETIN**, OTUA (France)  
**Helena RUSSELL**, Bridge design and engineering magazine (UK)  
**Falko SCHROETER**, DH (Germany)  
**Genaro SEOANE**, ARCELOR (Spain)  
**Fabian SINAPI**, CIA (Belgium)  
**Laurent TABUTIN**, AIOA (France)  
**Sandra WEIGAND**, EIFFEL Construction Métallique (France)

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## OBJECTIVES OF THE SYMPOSIUM

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After the success of the Footbridge 2002 congress, (devoted to the design and dynamic behaviour of footbridges), that brought together more than 300 experts from across the world, OTUA is continuing in 2004 to organise scientific meetings with an international conference on steel bridges.



The topics will be particularly directed towards the innovations which enable steel to be included in the design and construction of exceptional bridges, such as:

- Cable-stayed bridges: Stonecutters Bridge in Hong-Kong and the Port Tawe Bridges in Great Britain...
- Suspension bridges: the new Carquinez bridge in the USA...
- Very long span bridges: the Salto del Carnero railway bridge in Spain...
- Arch bridges: the Caiyanba bridge at Chongqing in China...

A day will be devoted to the Millau Viaduct, which is truly a spectacular illustration of a bridge with a steel deck. With both its deck and pylons in steel, this bridge enables structural advances to be made in several domains: its multi-span cable-stayed design, the use of temporary support towers for the launching of the deck, its resistance to the effects of turbulent winds.

At the time of Steelbridge 2004, the deck will have almost linked the two sides of the river Tarn valley, since the welding of the deck above the river Tarn should be carried out at the beginning of summer 2004.

The inauguration of the viaduct is planned for January 2005. The visit to the construction site will therefore be a highlight of the conference.

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## MORE ABOUT OTUA

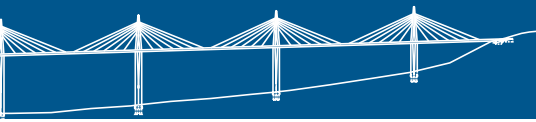
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Created in 1929, the Technical Office for Users of Steel (OTUA) is a French professional organisation whose calling is to contribute to the increasing use of steel in France, and to continually widen the fields of its application. This is achieved not only by offering its technical support to the users of this material, but also by disseminating steel culture, from the classroom to within companies.

Commercially neutral and independent, the office is a privileged "steel correspondent" for government administrations (the Ministry of Industry, the Ministry of Equipment...), those who prescribe its use (architects, consultant offices...) and widespread market users such as building and public works (BTP) and engineering markets. For small companies with less than 200 employees (PME-PMI), the technical support offered by OTUA is greatly valued. For OTUA, this sector (close to 60,000 companies in France) constitutes a very important field of action and exploration since it represents 43% of the annual national consumption of steel, all areas of activity combined.



CONFERENCE PROGRAMME					
Wednesday June 23, 2004		Thursday June 24, 2004		Friday June 25, 2004	
08.00 – 09.00	<b>Registration</b>	09.00 - 10.00	<b>Session 5</b> Arch bridges	09.00 - 13.00	<b>Visit to the Millau Viaduct</b>
09.00 - 09.30	<b>Opening</b>				
09.30 - 10.30	<b>Session 1</b> Architecture and design	10.00 - 10.30	Coffee break <b>Posters session</b>		
10.30 - 11.00	Coffee break <b>Posters session</b>	10.30 - 12.30	<b>Session 6</b> Launching		
11.00 - 12.30	<b>Session 2</b> Cable-stayed bridges				
12.30 - 14.30	Lunch <b>Posters session</b>	12.30 - 14.30	Lunch <b>Posters session</b>	13.00 - 15.00	<b>Lunch</b>
14.30 - 16.00	<b>Session 3</b> Suspension bridges	14.30 - 16.00	<b>Session 7</b> Millau Viaduct conceptual design	15.00 - 17.00	<b>Technical visits (optional)</b>
16.00 - 16.30	Coffee break <b>Posters session</b>	16.00 - 16.30	Coffee break <b>Posters session</b>		
16.30 - 18.30	<b>Session 4</b> Steel girder bridges	16.30 - 18.30	<b>Session 8</b> Millau Viaduct final design construction		
19.00 - 23.00	<b>Relaxed evening on the banks of the river Tarn</b>	20.30 - 24.00	<b>Official Dinner</b>		



ACCOMPANYING PERSONS PROGRAMME					
Wednesday June 23, 2004		Thursday June 24, 2004		Friday June 25, 2004	
09.30 - 12.15	Visit to the Saint Eulalie Commandery	09.00 - 12.00	Visit to the Roquefort caves	09.00 - 13.00	Visit to the Millau Viaduct
12.15 - 14.00	Lunch at La Cavalerie	12.00 - 14.00	Lunch at restaurant "La Pourtanelle"		
14.00 - 15.30	Discovery of La Cavalerie	14.00 - 15.00	Walking tour of Saint-Jean d'Alcas	13.00 - 15.00	Lunch
15.30 - 17.30	Walking tour of La Couvertoirade	15.00 - 16.30	Visit to the Viala du Pas de Jaux tower	15.00 - 17.00	Technical visits (optional)
19.00 - 23.00	Relaxed evening on the banks of the river Tarn	20.30 - 24.00	Official Dinner		



**Wednesday, June 23, 2004 (09.00 – 09.30)**

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**OPENING**

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**Jacques GODFRAIN**, former French Minister, Member of the French Parliament and Mayor of Millau, France.

**Sylvie PETETIN**, OTUA, France.

**Wednesday, June 23, 2004 (09.30 – 10.30)**

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**SESSION 1      ARCHITECTURE AND DESIGN**

Session chairman:      F. LEPINGLE, Road Directorate, France

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- The steel bridges of the A75 motorway, France.      G. GILLET, AIOA, France
- Architecture and structure of bridges.      A. LENCZNER, Foster and Partners, UK

**Wednesday, June 23, 2004 (11.00 – 12.30)**

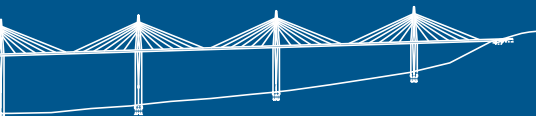
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**SESSION 2      CABLE – STAYED BRIDGES**

Session chairman:      N. GIMSING, Technical University of Denmark, Denmark

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- Stonecutters Bridge in Hong Kong – Design of the Steel Superstructure.      K. FALBE-HANSEN, Ove Arup, UK
- The design and construction of the Port Tawe Bridges, Swansea, UK.      I. FIRTH, Flint&Neil Partnership, UK
- Visual inspection of bridge cables and their coatings.      A.-P. BOUE, Germany
- The new bridge of the commercial port of Venice, Italy.      M. NOVARIN, Eiffage TP, France
- Detailed Design of the Neva Twin Cable-Stayed Bridge, Russia.      I. KOLYUSHEV, Institute Giprostroymost, Russia



**Wednesday, June 23, 2004 (14.30 – 16.00)**

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**SESSION 3      SUSPENSION BRIDGES**

Session chairman:      J.-P. GOURMELON, Central Laboratory of Bridges and Roads, France

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- Modern suspension bridges: global point of view      K. OSTENFELD, COWI, Denmark
- Long span bridge aerodynamics - Four bridge case studies.      J.-D. RAGGETT, West Wind Laboratory, USA
- Suspension bridge cable replacement.      P. SLUSZKA, Ammann & Whitney, USA
- The California orthotropic steel bridges, USA.      A.-R. MANGUS, Caltrans, USA
- Wind Tunnel Testing of the Parallel Tacoma Narrows Bridges, Canada.      S. STOYANOF, RWDI, Canada
- New Carquinez bridge - North America's newest suspension bridge, California, USA.      E. THIMMHARDY, California Transport Department Division of Structure Design, USA

**Wednesday, June 23, 2004 (16.30 – 18.30)**

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**SESSION 4      STEEL GIRDER BRIDGES**

Session chairmen:      C. DOLLING, CORUS, UK - B. CHABROLIN, CTCIM, France

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- Composite bridges built in an area affected by a mining subsidence.      J. STRASKY, Strasky Husky & Partners, Czech Republic
- Design and fabrication of the Sylvan Overcrossing 70W HPS girder bridge, USA.      B. JOHNSON, US Federal Highway Administration, USA
- The Spanish experience in double composite bridges: evolution and application to some exceptional bridges.      J.-F. MILLANES, IDEAM, Spain
- Design of high performance bridges in the small and medium span range.      Ph. RAMONDENC, SNCF, France



**Wednesday, June 23, 2004 (16.30 – 18.30)**

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**SESSION 4** (continued) **STEEL GIRDER BRIDGES**

Session chairmen: C. DOLLING, CORUS, UK - B. CHABROLIN, CTICM, France

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- New bridges over the Aar channel at Hagneck, Switzerland. D. STUCKI, DIC Engineers, Switzerland
- Long span and wide twin girder composite bridges. R. DUBOIS, Baudin Chateauf, France
- Twin girder decks in MIKTI research program. F. TAVAKOLI, Ministry for Infrastructure, France
- The Jaulny Viaduct, new East HSR, France. J.-B. DATRY, SETEC, France
- Salto del Carnero railway bridge, Spain. Concept and design. P. TANNER, CESMA, Spain
- Current world-wide trends in the usage of modern steel for bridge constructions. F. SCHROETER, DH, Germany

**Thursday, June 24, 2004 (09.00 – 10.00)**

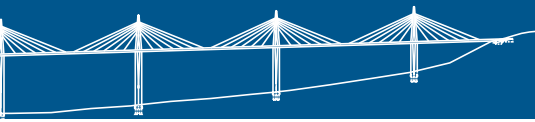
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**SESSION 5** **ARCH BRIDGES**

Session chairmen: J.-M. CALZON, MC2, Spain – J. BERTHELLEMY, Setra, France

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- Design of the Caiyanba Bridge in Chongqing, China. M.-C. TANG-J. SUN, TY Lin International, USA
- The Grand Canal's 4<sup>th</sup> bridge between Piazzale Roma and the train station in Venice, Italy. S. VENTO, Comune di Venezia, Italy
- Design topics for a restricted horizontal force steel bridge. G.-L. PITA, Civil Engineer, Argentina
- Vortex-induced vibrations of the diagonal hangers of the Werkspoor bridge (Utrecht), Netherlands. W. HOECKMAN, VICTOR BUYCK, Belgium



**Thursday, June 24, 2004 (10.30 – 12.30)**

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**SESSION 6      LAUNCHING**

Session chairmen:      J. RAOUL, Setra, France – V. de VILLE de GOYET, BEG, Belgium

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- Web buckling and patch loading in bridge launching.      E. MAIORANA, OMBA Impianti & Engineering S.p.A, Italy
- Construction of the Chiapas Bridge Superstructure, Mexico.      R. GOMEZ, Institute of Engineering, UNAM Mexico
- Longitudinally Stiffened Girder Webs subjected to patch loading.      U. KUHLMANN, University of Stuttgart, Germany
- Lanjaron Bridge launching, Spain.      F. TARQUIS, Dragados O.P., Spain
- Design improvements for patch loading of steel bridges during launching.      T. RIPA, IDEAM S.A., Spain

**Thursday, June 24, 2004 (14.30 – 16.00)**

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**SESSION 7      MILLAU VIADUCT – CONCEPTUAL DESIGN**

Session chairman:      J.-F. COSTE, President of the International experts Committee of Millau Viaduct, France

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- Introduction.      M. LEGRAND, CEVM, France
- Conceptual design of Millau Viaduct.      M. VIRLOGEUX, Consultant, France
- The deck erection methods.      J.-M. CREMER, BEG, Belgium

**Thursday, June 24, 2004 (16.30 – 18.30)**

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**SESSION 8      MILLAU VIADUCT – FINAL DESIGN AND CONSTRUCTION**

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- General calculations.      J.-Y. DEL FORNO, BEG, Belgium
- Wind studies.      G. GRILLAUD, CSTB, France
- Special calculations.      V. de VILLE de GOYET, BEG, Belgium
- Fabrication and launching of the deck.      M. BUONOMO, Eiffel CM, France



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## POSTER SESSIONS

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The posters will be announced in the conference hall, presented and commented upon by their designers in a space that will be reserved for them.

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### SESSION 1 ARCHITECTURE AND DESIGN

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**Bascule bridge in the port of Valencia, Spain.**

F. TARQUIS, Dragados O.P., Spain

**Use of tubular truss for the design of twin composite viaducts at Echevarri Overpass, in Vitoria, Spain.**

S. SAIZ, SESTRA, Spain

**The pedestrian bridge over the Besos yacht port, in the precincts of the Barcelona forum 2004, Spain.**

A.-C. APARCIO, Spain

**Verrand viaduct: an orthotropic steel deck bridge.**

A. MIAZZON, OMBA, Italy

**A flyover for a road junction between the toll-barrier in Dolo and the Riviera del Brenta, Italy.**

E. SIVIERO, University IUAV of Venice, Italy

**Steel pedestrian bridge in Bogota, Colombia.**

G. VALENCIA, Colombia

**Tubular steel bridges with cast steel nodes - innovative solutions in modern bridge design.**

V. ANGELMAIER, Andrà & Partner, Germany

**A proposal for "Bridging" three countries.**

C. KALFAS, University of Thrace, Greece

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### SESSION 2 CABLE-STAYED BRIDGES

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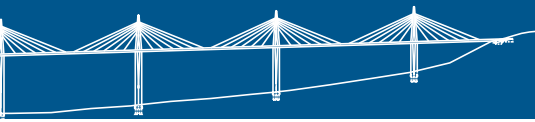
**Experimental dynamic analysis of a cable-stayed bridge as part of preservation efforts.** P. CLEMENTE, ENEA, Italy

**Steel-concrete cable-stayed bridge over the Acre river between Brazil and Bolivia.** R.-N. OYAMADA, OUTEC, Brazil

**A new and unusual cable-stayed footbridge at Valladolid, Spain.**

M.-G. NAVARRO, MC-2, Spain

**Stayed footbridge in La Coruna, Spain.** A.G. SERRANO, Proxectos, Spain



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## SESSION 3      SUSPENSION BRIDGES

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Effects on suspension bridges due to tectonic shifts.

P. CLEMENTE, ENEA, Italy

A new orthotropic bridge deck using SPS plates.

R. VINCENT, Canam Manac, Canada

Innovative use of steel shear links in long span bridge towers for seismic mitigation.

A.-M. KITANI, University of Nevada, USA

Recent developments in design and construction of suspension bridges in the USA.

T. SPOTH, Parsons, USA

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## SESSION 4      STEEL GIRDER BRIDGES

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Steel bridges in a dense urban area of the Moscow metropolis, Russia.

V. SELIVERSTOV, Giprottransmost, Russia

The viaducts of Billy-le-Grand and Bussy-le-Château on the new East HSR, France.

D. FRIOT, Tractebel-Coyne et Bellier, France

Behaviour of 4 girder composite HSR bridge.

Y. SIEFFERT, URGC, France

Application of new weathering steel for unpainted viaducts in the Coastal region.

T. HOSAKA, Railway Engineering, Japan

A new modular concept for steel-composite bridges.

B. SCHAPERTONS, CBP, Germany

Bridges of the link with the Sarre (The Grand-Duchy of Luxemburg).

W. SCHWARZ, TR-ENGINEERING, Luxemburg

Fatigue assessment of steel-composite high-speed railway bridges using a reliability-based approach.

H.-M. KOH, Seoul National University, Korea



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## SESSION 5 ARCH BRIDGES

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**Three steel bridges in Spain designed by IBERINSA.**

M. BIEDMA, IBERINSA, Spain

**Some recent designs of composite bridges in Spain.**

J. SOBRINO, PEDELTA, Spain

**Dagu bridge, Tianjin, China.**

M.-C. TANG, T.HO, X.CHENG, TY Lin International, USA

**3D Product Model of a Steel Bridge - Case: Riga Bridge, Finland.**

M.-E. JARVENPAA, KORTES, Finland

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## SESSION 6 STEEL BRIDGE LAUNCHING

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**The Vaux viaducts - Measurements during launching of 130-metre-span, Switzerland.**

J.-P. LEBET, EPFL, ICOM, Switzerland

**Recent developments in tubular bridges and the fatigue design of their joints.**

S. STURM, EPFL, ICOM, Switzerland

**Comparison of finite element analysis and field load testing of concrete Slab-on-Girder steel truss bridges.**

C.-M. BOWEN, Oklahoma State University, USA

**Longitudinally stiffeners girder webs subjected to patch loading.**

L. DAVAINÉ, SETRA, France

**Shear Buckling Test of Trapezoidal Corrugated Steel Plate Web.**

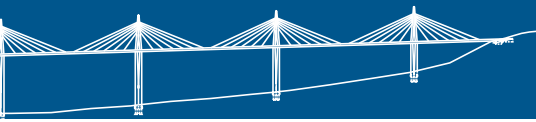
T. YOON, Research Institute of Industrial Science & Technology, Korea

**The restoration of the Trencat bridge (broken bridge), Spain.**

X.-F. SOLA, Alfa Polaris, Spain

**Read the latest programme on the website:**

**[www.otua.org/events](http://www.otua.org/events)**



**Friday, June 25, 2004 (09.00 – 13.00)**

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## VISIT TO THE MILLAU VIADUCT

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The Millau Viaduct is the highest cable-stayed bridge in the world. Reaching a height of 343 metres, it is 2,460 metres long and rests on seven reinforced concrete piers. Its deck, entirely in steel, is 270 metres above the river Tarn.

The visit to the construction site while the deck is being welded together will be an unforgettable moment of the symposium. Its spectacular construction has already been written about in numerous magazines.

“This spectacular 2,460-metre-long structure, displaying many innovative solutions, will impose itself as a reference in the field of civil engineering”.

- *Industrie et Technologie* – May 2003

“The Millau Viaduct – One record after another” - *Le Moniteur* – July 2003

“The Millau Viaduct is no ordinary construction site” - *Interview with Bernard Gaudet* – *TPBM* – July 2003

“Above the river Tarn, the highest bridge in the world” - *Capital* – October 2003

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## THE STEEL IN THE VIADUCT: 45,000 tons to construct the viaduct

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### **The deck: 32,000 tons**

It is composed of 152 steel box girders prefabricated in factory workshops. More than half the steels used are high-performance steels, known as thermo-mechanical, with a thickness of up to 100 millimetres and a width of 4,110 millimetres.

### **The stay cables: 1,500 tons**

They are composed of sheathed steel cables. Sloping and rectilinear, they support the deck and contribute to the stability of the viaduct. They add considerably to its slender appearance. The use of steel for the construction of the deck allowed the number of stay cables to be reduced by half, compared with a concrete solution.

### **The pylons: 4,600 tons**

They support the stay cables and are 90 metres high. The choice of steel pylons (erected in inverted Y positions) allowed the structure to be further lightened.

### **The piers: 1,400 tons**

The concrete is reinforced with steel rods. They are indispensable for the piers to be able to resist all the stresses to which it will be subjected (wind, weight of the deck and the traffic...).

### **The temporary support towers: 5,000 tons**

These temporary steel supports facilitate the launch of the deck and will be disassembled at the end of the construction of the viaduct.



**Friday, June 25, 2004 (15.00 – 17.00)**

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## THE OPTIONAL TECHNICAL VISITS

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The organisation of Steelbridge 2004 in Millau offers us the opportunity to visit several bridges of great technical interest.

This programme is also open to accompanying persons.

You will therefore be able to discover various steel civil engineering structures such as:

- **The Verrières Viaduct:** a composite box-girder bridge with a maximum span of 144 metres on piers reaching a height of 140 metres. This structure was built in 2002 using techniques similar to the Millau Viaduct.
- **The Garrigue Viaduct:** a bridge with two parallel composite twin-beam decks with a maximum span of 70 metres serving as a link between the Millau Viaduct and the Verrières Viaduct. It was built in 2002.

Transport for the technical visits will be by coach. The price is 40 euros (VAT included) per person. To book, please refer to the registration form (enclosed).

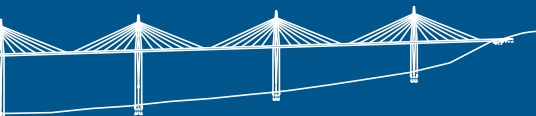
There are other famous bridges in the region and, if you prolong your stay at Millau, you can discover them:

- **The Viaur Viaduct:** an arch cantilever truss bridge constructed in 1902. This remarkable railway construction is still in service today.
- **The Garabit Viaduct:** an arch bridge constructed in steel in 1884 by Gustave Alexandre Eiffel. This symbolic structure is still used by the Clermont-Béziers railway link.
- **The Gard Bridge:** a Roman aqueduct built in the first century AD, situated between Uzès and Nîmes. It is part of the UNESCO world heritage.

If you are interested by a visit to these bridges, it is possible to organise a technical visit on Saturday, June 26.

Contact: **Roula Kastanidi:** + 33 1 44 43 65 10

E-mail: **[roula.kastanidi@corporatefactory.fr](mailto:roula.kastanidi@corporatefactory.fr)**



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## THE EVENING PROGRAMMES

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### Wednesday, June 23, 2004

An outdoor evening: a barbecue party will be organised on the Maladrerie peninsula, in Millau. Various sporting activities will be offered free of charge: archery, down-river kayak-canoeing, traditional games of bowls. Casual dress is recommended.

### Thursday, June 24, 2004

An official dinner will be organised at the castle of Tournemire, accompanied by an orchestra playing classical music.

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## THE PROGRAMME FOR ACCOMPANYING PERSONS

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A programme for every day is proposed so that you may profit from the magnificent scenery to be found in the Millau surroundings and to discover the legacy of the Templar and Hospitaler Knights.

**([www.cdt-aveyron.fr/fr/culture/templiers.php](http://www.cdt-aveyron.fr/fr/culture/templiers.php)).**

The registration of the accompanying person should be made on the same form as the congress participant.

You can also visit the town of Millau and its heritage buildings (**[www.ot-millau.fr](http://www.ot-millau.fr)**) :

- the archaeological site of the Gaufresenque
- the belfry, built in the 12<sup>th</sup> century
- the museum with various displays: glove manufacture (which made Millau famous), Gallo-Roman pottery, and fossils (collected on the Grands Causses and dating from the primary era).

If you wish to prolong your stay at Millau, you can contact the "Havas A Venir " agency, which will be able to advise you.



## PROGRAMME FOR JUNE 23, 2004

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Price 62 euros (VAT included)/person (the price includes transport, the visits and lunch).

**09.30:** Departure from Millau

**10.15:** Visit of the Saint Eulalie Commandery (75 minutes)

At the foot of the Larzac plateau in a small, welcoming, wooded valley, the Knights Templar built the Commandery of Saint Eulalie in the 12<sup>th</sup> century. The walled village has retained its narrow alleys and numerous covered passageways. On the main square, in front of the Commandery, you can freshen up around the shaded fountain built in the 17<sup>th</sup> century, and discover the magnificent, partly Romanesque church. It is an authentic, striking village that is worth spending time in.

**12.15:** Lunch at La Cavalerie

**14.00:** Discovery of La Cavalerie

Since immemorial times, La Cavalerie has been a stopping place for travellers crossing the Larzac plateau. The Knights Templar developed a village there, which the Hospitaller Knights ringed with an outer wall that for a large part still exists today.

The ancient Hospitaller village is not obvious at first glance. The present village with its shops surrounds it.

To be seen while there: The fortified outer wall and its imposing doorway, the 15<sup>th</sup> century houses and the town houses from the 17<sup>th</sup> century. The remains of the Templar church are preserved in the present 18<sup>th</sup> century church.

**15.30:** Walking tour of La Couvertoirade (45 minutes)

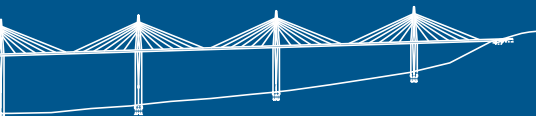
The medieval village of La Couvertoirade reflects the military might of the Knights Templar (they settled there in the 12<sup>th</sup> century) and the everyday lives of the Knights Hospitaller.

By virtue of its exceptional state of preservation, the village of La Couvertoirade constitutes a true miniature of a medieval town.

**<http://perso.wanadoo.fr/lacouvertoirade/>**

**16.15:** Free time in La Couvertoirade (60 minutes)

**17.30:** Return (arrival at Millau: 18.00)



## PROGRAMME FOR JUNE 24, 2004

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Price 62 euros (VAT included)/person (the price includes transport, the visits and lunch).

**09.00:** Departure from Millau

**09.45:** Visit to Roquefort, famous for its cheese made from ewe's milk and matured in natural caves.

**12.00:** Lunch at the restaurant "La Pourtanelle"

**14.00:** Walking tour of Saint-Jean d'Alcas (30 minutes)

Its four corner towers that enclose the only two parallel streets lined with almost identical little houses flank a very beautiful fortified village, surprising for its harmonious regularity, Saint-Jean d'Alcas. The village belonged to the Cistercian nuns of Nonenque.

**15.00:** Visit to the Viala du Pas de Jaux tower (50 minutes)

Living illustration of the agro-pastoral calling of the Larzac plateau, the Viala du Pas de Jaux tower was built in the 15<sup>th</sup> century, next to the former buildings of the Knights of Saint John of Jerusalem, to protect the inhabitants, their belongings and their animals.

**17.00:** Return (arrival at Millau: 18.00)

Accompanying persons can reserve places for the outdoor dinner on June 23 and for the official dinner on June 24 (see the registration form).

## PROGRAMME FOR JUNE 25, 2004

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Accompanying persons can register for the technical visits:

**Morning:** visit to the Millau Viaduct, the price is 40 euros (VAT included)/person, including lunch.

**Afternoon:** visit to various bridges, the price is 40 euros (VAT included)/person.



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## GENERAL INFORMATION

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### THE STANDS

An area for stands has been planned during the symposium, allowing congress participants to obtain direct information on different subjects: calculation software, steel construction companies, universities, and steel manufacturers...

The companies or organisations wishing to have a stand at Steelbridge must imperatively reserve their places before May 31, 2004, by contacting:

Valérie DUSSÉQUÉ  
Tel.: + 33 1 41 25 83 61  
Fax: + 33 1 41 25 55 70  
E-mail: [valerie.dusseque@otua.ffa.fr](mailto:valerie.dusseque@otua.ffa.fr)

### THE FINAL REPORT ON THE SYMPOSIUM

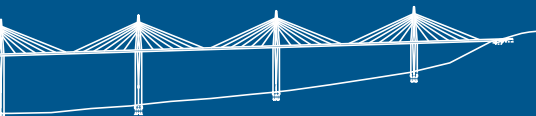
A document containing all the summaries and a CD-ROM containing the full text of all the oral conferences and poster presentations will be distributed during the congress.

### N.B:

The official languages of the symposium: English and French.  
Simultaneous translation will be provided.

### CONTACTS:

- Scientific programme: **Wasoodev Hoorpah**  
Tel.: + 33 1 41 25 65 92  
E-mail: [wasoodev.hoorpah@otua.ffa.fr](mailto:wasoodev.hoorpah@otua.ffa.fr)
- Registration/organisation: **Roula Kastanidi**  
Tel.: + 33 1 44 43 65 10  
E-mail: [roula.kastanidi@corporatefactory.fr](mailto:roula.kastanidi@corporatefactory.fr)
- Accommodation: **Havas Voyages A Venir Agency**  
Tel.: + 33 5 65 61 20 77 (specify Steelbridge 2004).  
E-mail: [avenir.agence@wanadoo.fr](mailto:avenir.agence@wanadoo.fr)



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## REGISTRATION

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All registrations (symposium, technical visits, tourist visits for accompanying persons) must be made by using the "Registration Form" enclosed with this document.

Registration for the conference entitles you to the following:  
Transport from Montpellier airport to Millau by coach, the conferences, lunches, dinners, the symposium final report and the visit to the Millau Viaduct.

Optional extras: the technical visits and the visits of accompanying persons.

The following rates correspond to the three days of the congress.

- Payment received before 10/5/04: 700 euros (VAT included)
- Payment received after 10/5/04: 750 euros (VAT included)
- Payment on arrival: 800 euros (VAT included)
- Optional visit: 40 euros (VAT included)

The registration form must be returned together with your payment or a proof of your payment:

- **by cheque** in euros issued in favour of OTUA, addressed to:  
OTUA - Steelbridge 2004  
Immeuble Pacific - 13 cours Valmy  
F-92070 Paris La Défense

- **by bank transfer** to OTUA to the bank  
BNP PARIBAS LE PARVIS LA DEFENSE

Bank	Branch	Account N°	Key
30004	01328	00010078402	04
IBAN : FR76 3000 4013 2800 0100 7840 204			BIC : BNPAFRPPPTX

- **by credit card** (exclusively with Visa Credit Card) on our Website:  
[www.otua.org](http://www.otua.org)

**Please indicate your invoicing address (name, company, address...)**

An invoice will be sent when payment has been received.

In case of cancellation before 23/5/04 by fax or letter addressed to OTUA, 50% of the amount paid will be reimbursed after the conference.

In case of cancellation after 23/5/04, there will be no reimbursement.



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## SYMPOSIUM LOCATION

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Millau tourist office: [www.ot-millau.fr](http://www.ot-millau.fr)

1, place du Beffroi - BP 331 - 12103 Millau Cedex

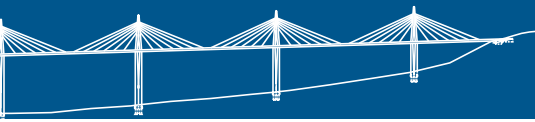
Tel.: + 33 5 65 60 02 42 - Fax: + 33 5 65 60 95 08

E-mail: [office.tourisme.millau@wanadoo.fr](mailto:office.tourisme.millau@wanadoo.fr)

### Two meeting places are suggested:

- Tuesday June 22: at the Montpellier-Méditerranée airport, where a shuttle service will be provided at 12.30, 19.30 and 21.30
- Wednesday June 23: directly at Millau, at the Millau Palais des Congrès, Parc de la Victoire, avenue Charles de Gaulle.

Return to the Montpellier-Méditerranée airport is planned for Friday June 25, leaving Millau by shuttle service at 15.00 and 17.00.



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## ACCESS

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You can reach Millau directly by:

- **ROAD:**

By taking the A75 "La Méridienne" motorway

Millau is 633 kilometres from Paris, 250 kilometres from Clermont-Ferrand, 115 kilometres from Montpellier, 187 kilometres from Toulouse and 400 kilometres from Barcelona.

- **PLANE:**

Montpellier-Méditerranée airport: Tel: + 33 4 67 20 85 85

**AIR FRANCE** This original document will entitle you a reduction of up to 50% on the regular fare for a round trip journey (subject to conditions) on the Air France continental domestic network for this event.  
TRANSPORTEUR OFFICIEL - OFFICIAL CARRIER

To obtain information, to book your electronic ticket please contact the Air France call center from within France: 0 820 820 820 (0,12 €/mn) or your travel agency.

**Air France Domestic Approved Number AXZE SE 33 927**

Validity: June 21, 2004 to June 24, 2004.

This document is valid for the issue ticket necessary for the travel arrangements of all your colleagues attending this event.

If you are reserving from abroad, your nearest Air France Office and call centers:

<http://www.airfrance.com>

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## ACCOMMODATION

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The "Havas A Venir" agency will ensure the reservation of your hotel rooms (specify Steelbridge 2004).

We should be grateful if you would select three hotels, indicating your preference.

Havas Voyages A Venir Agency

7 avenue Alfred Merle

12104 Millau cedex BP 424 France

Tel.: + 33 5 65 61 20 77

Fax: + 33 5 65 61 25 27

[avenir.agence@wanadoo.fr](mailto:avenir.agence@wanadoo.fr)

Payment is made by the congress participant to the hotel on the spot. In order to guarantee the availability of your room, a credit card number will be required.




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## THE HOTELS

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### BOOK VIA "HAVAS A VENIR" AGENCY

Name	Address	Price for two occupants of a double room	Price for one occupant of a single room
Hôtel de la Musardière ***	34 av. de la République 12100 Millau	121,22 €	110,61 €
Hôtel international *** (Mercure)	1 rue Louis Julié 12100 Millau	91,22 €	78,61 €
Hôtel international ** (Ibis)	1 rue Louis Julié 12100 Millau	71,22 €	60,61 €
Grand hôtel de la Muse et du Rozier ***	La Muse 12720 Mostuéjols	98,00 €	65,00 €
Tourotel **	12 bd Emile Lauret 12100 Millau	51,00 €	44,50 €
Hôtel Cévenol **	115 rue Rajol 12100 Millau	77,22 €	60,61 €
Millau Hôtel Club **	Route de Montpellier 12100 Millau	71,22 €	60,61 €
Hôtel Jalade **	18 Bis av. Alfred Merle 12100 Millau	57,22 €	50,61 €

*The prices are inclusive of tax and cover the nightly room charge and breakfast.*

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## SHUTTLE SERVICES

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The organising committee has planned a free bus shuttle service in the mornings and evenings between the hotels and the places where the symposium and the dinners will be held.

Information on the shuttle times will be handed to you on your arrival.



[www.otua.org/events](http://www.otua.org/events)