



# IABSE NEWS

Newsletter of the British Group of the  
International Association for Bridge and Structural Engineering

No. 22

Autumn 2005



*Hospital Footbridge, Stoke-on-Trent (designed by David Tasker – winner of the Milne Medal 2005)*

## Contents

Editorial	2
British Group News – IABSE Annual Lecture – Milne Medal 2005	3
Events 2005-2006	4
<b>Announcement – Young Engineers Conference 2006</b>	5
Report – Henderson Colloquium 2005 – Dynamics	6
Technical Briefing – Eurocode Implementation by the Highways Agency, UK	7
Project Report – Nesciobrug, Amsterdam	10
IABSE British Group Directory	12



# IABSE British Group News

---

## Editorial

Welcome to *IABSE News*, the newsletter of the British Group of IABSE.

Within the context of the engineering and construction industries in the United Kingdom, the British Group of IABSE could be viewed as an organisation of certain contradictions.

For example, we are not a professional qualifying body for engineers in the UK and yet our membership is drawn from a wide cross-section of practicing engineers from contracting, consulting and client organisations and from academia. Likewise, we are not a 'learned society' (in the traditional sense of the term) and yet our Henderson Colloquium each year draws together an enviable group of experts, frequently including participants from abroad, to discuss and debate a matter of interest and concern to the profession, with the aim of offering guidance on possible ways forward.

Leaving these aside and focussing on aspects of what we are as a Group (rather than what we might or might not be) we most certainly are a grouping of engineers who take a global perspective on what we do. We understand and value meeting, sharing and corresponding with our fellow engineers from around the world, as well as at home, both for our own benefit and for the benefit of those we serve - the wider public. We are also an organisation that takes seriously the importance of developing the potential of the young as they are educated and trained to become the engineers of the future. In this newsletter I hope you will agree that there is evidence to substantiate both of these claims.

Firstly, there are insights into the design and construction of a fascinating cycle-bridge project in the Netherlands. There is also a clear and concise briefing on progress with implementation of the structural Eurocodes by the Highways Agency. Though seen by some a bureaucratic imposition, the Eurocode system will surely offer more opportunities to British engineers to work with greater freedom in Europe than ever before.

Also, early in 2006, there are two one-day conferences for Young Engineers and for Young Researchers. In particular, the Young Engineers Conference is commended as a unique opportunity for students and graduates to hear, meet, speak with and be inspired by leading engineers who between them have realised many exciting and notable buildings, bridges, stadia and other structures. Please encourage any young engineers and researchers that you know to take part in these events and, if necessary, help them to find the time to attend amid the ongoing pressures of their daily work.

Amongst the other events that the British group promotes, this year's Annual Lecture, to be given by Professor Ajit Shenoï on 24 November, should appeal to both younger and more experienced engineers alike and, indeed, to anyone who has a fascination with structures and an interest in how structural technology is applied in other engineering disciplines.

As ever, your thoughts and comments on IABSE, *IABSE News* and any other engineering or related subject of interest to members are warmly welcomed.

With best wishes.

Andrew Martin  
Editor

---

The views and opinions expressed in *IABSE News* are those of the respective authors and not those of either the Executive Committee of the IABSE British Group or the Editor. Whereas effort has been made to ensure the accuracy of statements and acknowledgements, we reserve the right to be as wrong as everyone else.



## ‘Light, but Strong and Safe? Assessing the Structural Integrity of Plastic Ships and Boats’



On Thursday 24 November at 6.00pm at the Institution of Structural Engineers, 11 Upper Belgrave Street, London, **Professor Ajit Shenoï** of Southampton University will give the IABSE British Group Annual Lecture for 2005 (see ‘Events’ for further details).

As an global expert from a distinct yet closely related field of engineering to the majority of IABSE members, the Executive Committee were particularly pleased when Professor Shenoï accepted the invitation to give this year’s lecture and look forward to giving him a warm welcome at the IStructE. The lecture will have a broad appeal especially to those interested in working with advanced composite materials and, following the pattern of recent years, a large attendance is expected.

Professor Shenoï is an active teacher and researcher. His teaching at Southampton University includes courses in ship design and production, maritime and marine structures and the design of sailing and powered craft while his research work includes the mechanics of layered anisotropic materials (including FRP), computational mechanics and structural design for production. Professor Shenoï has written or contributed to over 200 papers in the UK and around the world. He is also on the editorial boards of three learned journals.

---

### Milne Medal 2005

## Winner - David Tasker

The Milne Medal for 2005 has been awarded to **David Tasker** of Capita Symonds for his design of the Hospital Footbridge, Stoke-on-Trent (see cover picture). The Hospital Footbridge is a ‘gateway’ structure which marks the entrance to North Stafford University Hospital.

The Hospital Footbridge was required to be a landmark but ‘without paying a premium over a conventional bridge’. This was achieved by a structure which the Milne Medal judges considered to be an elegant and economic solution, having good detailing and making a strong impact against the skyline.

Simplicity is the essential hallmark of the design. The deck is 5.6m above road level, has an overall span of 34m and is 2.7m wide, and is supported at mid-span by a pinned arch spanning 26m between two piled concrete supports. Steel was selected as the structural material for its ability to give slender and elegant structural forms, its light weight for site lifts and for general economy for this scale of bridge. This advantage was maximised by designing the deck and arch sections as thin stress-skinned forms in 8mm and 10mm thick pre-curved steel plate. Connections between the arch and strut were formed by stainless steel pins and bushes. Thrusts from the arch and struts are resisted by piled foundations.

Lighting is by a purpose-designed stainless steel deck unit, using a single source to light the deck, throw splashes of light onto the balustrades and provide a thin band of blue light when seen from the roadway. The bridge thus becomes a landmark at night as well as by day.

David Tasker will receive the Milne Medal from Professor David Nethercot, Chairman of the IABSE British Group, at a short presentation before the Annual Lecture on 24 November.



## Events 2005-2006

<u>Date</u>	<u>Time</u>	<u>Event</u>
Thursday 24 November 2005	5.00pm	<u>Annual General Meeting</u>
	6.00pm	<b><u>IABSE Annual Lecture 2005</u></b> <i>'Light, but Strong and Safe?'</i> <i>Assessing the Structural Integrity of Plastic Ships and Boats'</i> <b>Professor Ajit Sheno</b> i (Southampton University)
	8.00pm (following Annual Lecture)	<u>Annual Dinner</u> (Fee payable. Prior booking essential.)
Wednesday 15 March 2006	All day	<b><u>Young Researchers Conference</u></b> (co-sponsored by IABSE British Group) For information visit <a href="http://www.istructe.org.uk">www.istructe.org.uk</a>
Friday 31 March 2006	All day	<b><u>IABSE Young Engineers Conference</u></b> <i>'Design Values for the 21st Century'</i> The Building Centre, Store Street, London For information contact <a href="mailto:chris.woodfield@burohappold.com">chris.woodfield@burohappold.com</a> . (Also, see article in this edition of <i>IABSE News</i> )
tbc	6.00pm	<b><u>Milne Medal Lecture</u></b> <b>David Tasker</b> (Capita Symonds) Milne Medallist 2005
10-12 July 2006	Residential	<b><u>IABSE Henderson Colloquium 2006</u></b> <i>'Factor 10 Engineering for Sustainable Cities'</i> Magdalene College, Cambridge
Thursday 30 November 2006	5.00pm	<u>Annual General Meeting</u>
	6.00pm	<b><u>IABSE Annual Lecture 2006</u></b> <b>Bob Silman</b> (Robert Silman Associates, New York)
	8.00pm (following Annual Lecture)	<u>Annual Dinner</u> (Fee payable. Prior booking essential.)

Venues Unless noted otherwise, all meetings and events take place at the Institution of Structural Engineers Headquarters, 11, Upper Belgrave Street, London. Tea is usually served before evening lectures and meetings from 5.30pm.

---

## IABSE British Group Website

The website of the British Group can be accessed at [www.iabse-uk.org](http://www.iabse-uk.org), where proceedings of Henderson Colloquia and back editions of *IABSE News* are available in downloadable form. We are grateful to the Institution of Structural Engineers for their continued generosity in hosting the website.



## IABSE Young Engineers Conference 2006

# Design Values for the 21<sup>st</sup> Century

*Ian Liddell, Chairman of the Organising Committee, has provided the following preliminary information about this exciting event.*

The IABSE British Group is planning a third Young Engineers Conference, to be held at the Building Centre, Store Street, London, on the 31<sup>st</sup> March 2006.

The aim of the Conference is to bring together students and young engineers, from different universities and companies, with more senior engineers who have a name for exciting and innovative work to share some of their passion and enthusiasm.

The programme for the day will include stimulating presentations and discussion on current projects and practices from world renowned engineers and designers, under three main themes:

- Sports Structures
- Useful Life
- Construction Technology

There will also be poster presentations by young representatives of the Conference's sponsor organisations who will be able to talk about the projects they have been working on with delegates.

The Conference will end with a reception in the exhibition space of the Building Centre with time to meet both older and younger colleagues.

Speakers are being invited from the UK and abroad and further details of the programme for the Conference will be circulated in due course.

A nominal fee will be charged to delegates.

Anyone interested in receiving further information about the Young Engineers Conference send an email to [chris.woodfield@burohappold.com](mailto:chris.woodfield@burohappold.com).

---

## IABSE Symposium 'Structures and Extreme Events' Lisbon, 14-17 September 2005

A short report on the Symposium by Stewart Alexander (WSP) has been published in *The Structural Engineer* (1 November 2005). The Symposium included contributions from Allan McRobie (Cambridge University) and Stewart Alexander, drawing on papers presented by them at the 2004 Henderson Colloquium 'Designing for the Consequences of Hazards.'

---

## Structural Engineering International

The ongoing opportunity exists for all members to have articles published in *SEI*, the international journal of IABSE. Rules for publication are available through the IABSE website at [www.iabse.org](http://www.iabse.org). David Doran is the UK Correspondent for *SEI* and can offer assistance to prospective authors. His contact details are given in the Directory at the end of this newsletter.



Henderson Colloquium 2005

## Dynamics and the Future

By *Allan McRobie, Cambridge University Engineering Department*

The 2005 Henderson Colloquium was held at Magdalene College, Cambridge in early July 2005. The theme was 'Dynamics and the Future' and the Colloquium was organised by Allan McRobie and Robin Spence of Cambridge University and David Mackenzie of Flint & Neill Partnership. As ever, the discussions were broad-ranging with earthquake, wind, railway dynamics providing some major sub-themes.

On the earthquake side, Giuliano Augusti introduced us to the ideas of Probability-Based Design, Edmund Booth covered Eurocode 8, Ian Liddell looked at earthquakes in the UK and Martin Williams explained the dynamic substructure testing that he had been involved with at Oxford.

For wind, Emil Simiu showed some advanced techniques for combining wind-tunnel tests for tall-buildings with probabilistic dynamics and Allan Larsen covered the problematic area of bridge-cable galloping.

On railways, Rainer Flesch explained the latest Austrian research and measurements on railway bridge vibrations, David Webb provided a thorough British perspective and Bill Harvey looked at the dynamic effects on masonry arches.

On other topics, Pat Dallard looked at research directions in pedestrian excitation of footbridges, Robin Spence asked what had been learned from the 2004 Boxing Day tsunami and Junji Kiyono explained techniques for simulating emergency evacuations. David Mackenzie asked some fundamental questions about dynamics education and Allan McRobie looked at the question of dynamics and risk.

Jim Woodhouse untangled some of the many difficulties associated with the modelling of damping, and Robin Langley explained his latest techniques for working in the mid-ranges of frequency end of the vibration spectrum, combining statistical energy analysis techniques with finite element predictions.

The level of presentation and discussion was uniformly high, but for this participant at least, the highlight of the event was Brian Ellis's talk which showed how he could measure the vibrations of the pinnacles on the Houses of Parliament with a laser on a small barrow parked across the Thames.

The real highlights, though, were the stimulating discussions and convivial atmosphere that all participants contributed to throughout the event, topped only by the privilege of the tour on to the top of the vaulted ceiling of Kings College Chapel, guided by Jacques Heyman. Bill Harvey's heel-drop test is still reverberating, in one heart at least.

*[Ed. The Executive Committee is grateful to Allan McRobie and Robin Spence for their efforts in organising the Colloquium which has been received as a great success. In due course, it is intended to make a fuller report of the proceedings of the colloquium available via the IABSE British Group website.]*

---

### Milne Medal 2004 – Paper by Stephen Brown published in *The Structural Engineer*

A paper entitled 'Millennium and beyond' by Stephen Brown (Buro Happold) has been published in *The Structural Engineer* (18 October 2005). The paper describes the three projects for which Stephen was awarded the 2004 Milne Medal: Millennium Point, Birmingham, St Catharine's House, London, and the Queen Elizabeth II Great Court, British Museum, London. The paper was presented to an evening meeting at the Institution of Structural Engineers in London on 3 November 2005.



## Technical Briefing

# Eurocode Implementation by the Highways Agency, UK

By *Sibdas Chakrabarti OBE, Highways Agency and Stewart Garden, Parsons Brinckerhoff.*

### Introduction

The structural Eurocodes are a suite of design codes that will be introduced over the next five years and will effectively replace all national standards in European Economic Area countries. When Eurocodes are published they will become part of the application of the Public Procurement Directive. In public tender and public contracts technical specifications shall be formulated by referring to EN Eurocodes in combination with the Nationally Determined Parameters. The Nationally Determined Parameters (or NDPs) incorporate country specific data and safety factors in a National Annex (NA), which will accompany each Eurocode.

The Highways Agency has commissioned consultants Parsons Brinckerhoff (PB) and Atkins to assist with the development of a strategy for implementation, develop the technical content of the Design Manual for Roads and Bridges, and ensure that highway structures can be designed safely and economically using the Eurocodes. The contract commenced in 2003 and is scheduled to complete in 2010.

### Eurocodes

There are ten structural Eurocodes, which are further subdivided into a total of 58 parts, each containing specific technical rules relating to the design of structures.

For bridges, designers require a number of these parts; for example to design a concrete bridge: Eurocode 0, covering the basis of design; Eurocode 1, to determine the actions applied to the structure; Eurocode 2, to determine the resistance of the concrete; and Eurocode 7 to ensure that the structure has adequate foundations. Additionally, execution documents covering construction tolerances and other workmanship requirements are also necessary.

As a result of the interaction between the various codes, CEN has grouped the Eurocodes into packages, and therefore the programme leading to the withdrawal of the current British Standards is determined by the publication of the final part in any given package. It is expected that equivalent British standards will be withdrawn from 2009.

### National Annexes

Each Eurocode part will be accompanied by a National Annex (NA) that will contain country specific data relating to issues such as safety and climatic variations. The NA will be used in conjunction with the Eurocodes in a particular country. The NA is the responsibility of each national standards body; in the UK this is BSI.

Once the Eurocode part is published, the national standards body has two years to prepare the National Annex. Some of the NAs will be developed by the Building Research Establishment (BRE) funded by the Office of the Deputy Prime Minister (ODPM), and some, principally related to transportation structures, will be developed by the Highways Agency in consultation with the BSI Working Groups. Most of the NAs will be published before the end of 2007.

### Design Manual for Roads and Bridges

The Design Manual for Roads and Bridges (DMRB) currently supplements the provisions of the British Standards, and will perform a similar function for the Eurocodes under the banner of Non-Conflicting Complementary Information (NCCI). The Highways Agency has some specific requirements that are not covered by the Eurocodes, such as the design of integral bridges, and also has supplementary requirements to those contained in the Eurocodes. There are around 45 DMRB parts that are written to supplement the British Standards to some degree, and these all need to be redrafted to account for the Eurocode requirements. The Agency's strategy is to first review the Eurocode provisions, undertaking scoping studies to determine what Eurocode provisions need to be supplemented to maintain the Agency's expected levels of safety and value for money.



The opportunity will be taken to reduce the number of DMRB parts and only to include requirements that are essential to ensure safety, durability and economy of highway structures. It is intended that guidance material such as worked examples will be produced to supplement the already growing number of technical manuals and other material that experts and industry bodies are publishing in anticipation of the introduction of Eurocodes. The redrafting of the DMRB is at different stages of completion and is dependent on the availability of the associated Eurocode part. Most of the scoping studies are now complete, and early to mid stage drafts have been produced for a number of key documents, including a 'Basis of Design' part, which will serve as a gateway document stating the Agency's requirements for considering actions on structures; and the steel design part.

Some of the Eurocodes are not yet complete, and the majority of NAs are in development, with publication taking place around 2006-2007. As the DMRB will supplement these documents DMRB parts will not be complete until the parameters in the National Annexes are fixed. Therefore, publication of the DMRB parts will not begin until 2006.

### Pilot Studies

Parsons Brinckerhoff and Atkins have undertaken pilot studies using Eurocodes to design structures that have already been designed and built in accordance with British Standards and the DMRB. The objective is to identify more specific impacts arising from the use of Eurocodes and the differences arising as a result of Eurocodes when compared to current practice.

The studies have shown that, although there is initial concern from designers as to the number of documents and scatter of rules, there is little change in the technical approval procedures. Eurocodes have been found to be less prescriptive than BS5400 and there is more reliance on first principles and finite element modelling. The results of the pilot studies can be summarised as below:

- The number of documents will increase and initially design costs will rise. With greater choice of software and guidance documents both from the UK and abroad it is anticipated that design costs will be broadly comparable over time.
- The studies have shown there is a little change in the capacity and sizes of members derived in designs using Eurocodes when compared to designs to BS5400. On average it is expected that construction costs will be same or be slightly lower. As the documents are less prescriptive there will be greater scope for economy and innovation.
- The impacts for construction will not be fully realised until the execution documents are complete. The initial indications are their effects will be minimal.

Further pilot studies on different types of bridges will be undertaken to address some of the issues not covered under the previous work. The Agency intends to undertake pilot studies in live contracts in due course when all the Eurocode parts and the associated DMRB are substantially complete.

### Effects on the Highways Agency

The introduction of Eurocodes will change the way we design and procure our bridges in the UK. Not only will Eurocodes and European product standards change the content of the DMRB, but they will also change our specifications and construction practices. European product standards for construction materials in particular have for a number of years required assimilation into the DMRB and associated specifications. The Highways Agency's Asset Assurance Group will be responsible for the approval process for structures. The Agency will need to communicate the principal issues related to Eurocodes that will arise during the approval process, and develop the procedural policy to deal with these requirements.

The reshaping of the DMRB will result in significant activity for Technical Project Boards (TPBs) who approve the DMRB and for our publishers. TPBs consist of representatives from the three Overseeing Organisations: Scotland, Northern Ireland and Wales, along with CSS, other directorates in Agency and the industry at large.



The Agency's approach is to resolve programme risks that exist internally and external risks that arise from the large number of inter-dependencies and stakeholders before implementation.

### Outstanding Issues

There are a number of unresolved issues. One of the most significant of these is the approach to the assessment of structures, which draws heavily from the rules in the British Standards, likely to be withdrawn by BSI around 2010. There has been a huge resource input to R & D and standards development in support of the UK Bridge Assessment Programme to identify relaxations and rules suitable for structures built to earlier code requirements. In many cases historic structures have been built to empirical rules that do not bear close scrutiny using contemporary standards. For these reasons it is unlikely to be practical to switch to assessments based on the Eurocode and the Agency is now considering how to manage this important area of work in the future.

Several issues remain to be addressed at European level. There isn't currently a European policy with respect to departures from the Eurocode standards; whether any departures will be permitted; and who would be responsible for managing any departures if they are permitted. There is a need for care and maintenance of the Eurocodes once they are published, and there remain issues about how a group would be set up for this purpose for each Eurocode, and how it would be funded. Further issues exist with respect to residual British Standards, which will be required to cover some aspects that are currently covered that will not be replaced by the Eurocodes. This is an issue that must be addressed by BSI.

### Eurocode Implementation at the National Level

The UK Government Department responsible for the implementation of Eurocodes, the Office of the Deputy Prime Minister (ODPM), commissioned the Institution of Structural Engineers (IStructE) to produce a National Strategy for Eurocode Implementation. The IStructE appointed representatives from all sections of the structural engineering industry to the committee, including representative from the Highways Agency. The committee delivered their report to ODPM in Summer 2004, highlighting the myriad of issues that remain in respect of the UK structural engineering industry's interests in the implementation of the Eurocodes. ODPM has accepted the findings of the report and a selection of recommendations are being taken forward.

One of the recommendations is the establishment of a standing committee for the Eurocodes, with terms of reference to monitor, update and modify the strategy for the implementation of Eurocodes in the UK. The standing committee is meeting regularly under the chairmanship of Professor David Nethercot of Imperial College to discuss implementation issues. The representatives from ODPM, the Highways Agency and experts from the industry meet to discuss issues and the way forward on implementation.

### Conclusion

All Eurocode parts are expected to be complete before the end of 2005 and some countries will be implementing them from 2006 onwards. However, the Agency intends to continue with the British Standards until all the DMRB parts are complete and the British Standards are withdrawn. This is expected to happen around 2010.

There is little doubt that the Eurocodes are based on strong scientific foundations and there will be greater scope for innovation, probably resulting in structures that provide better value for money. The Highways Agency has commissioned consultants to provide expert advice throughout the implementation programme. However, there remains a considerable amount of work to be done between now and 2010, and this will require increasing engagement throughout the Agency and its supply chain as the Eurocodes and DMRB migrate from technical development to usage for structural design.

### Acknowledgement

This article has been presented by kind permission of the Chief Executive of the Highways Agency, which is an executive Agency of the Department for Transport.



## Project Feature

# Nesciobrug, Amsterdam

By *Angus Low, Arup.*



Amsterdam is getting a sinuous new landmark - a cycle bridge which links the new suburb of IJburg into the city's cycle network. It is being built early enough so that initially it will carry construction workers to IJburg and later commuters from IJburg. It crosses the Amsterdam-Rhine Canal, close to Amsterdam's A10 ring motorway.

Site constraints impose a skew crossing and it seemed natural to curve the alignment across the canal and then reverse the curve as the route ramps down to the canal-side path, resulting in an S-shaped bridge. The main span needed to be about 170m. The City of Amsterdam saw an opportunity for a fluent bridge with some design flair, but their budget was limited. They were aware of a flowering of interesting footbridge designs in the UK and, in particular, they were aware of the S-shaped South Quay bridge which Wilkinson Eyre Architects and Jan Bobrowski & Partners had built across the West India Dock on the Isle of Dogs in London Docklands.

Arup's first involvement was in 1999 when we were given a small commission to see if a cycle bridge could be built within the budget. We derived quantities for a cable stayed solution and concluded that the budget was just about sufficient, but it was too close to be sure.

By 2001 Wilkinson Eyre had been appointed as Architects, and Arup had won a fee bid, jointly with Dutch engineers Grontmij, to become the engineers for the bridge. Arup had responsibility for the main span and Grontmij undertook the foundations and concrete approach spans. Arup had just opened an office in Amsterdam and the bridge was a wonderful project for the new team. The Arup involvement was managed from Amsterdam in Dutch with the design of the main spans being developed in London. We worked very closely together.

It is the first bridge I have worked on where the architect has had a separate commission from the engineer for the concept stage. The outcome depends more on the working relationships of individuals than the wording of contracts and I have had a good working relationship with Wilkinson Eyre from many projects in the past. Jim Eyre was keen to explore how the fluency of the alignment could be expressed in the structure and we agreed that a suspension bridge would provide that fluency. However, there were several good reasons not to consider a suspension bridge. To begin with, the ground of the Netherlands is very soft - no suspension bridge had ever been built in the Netherlands - and the deck was to be curved in plan. Another factor was that the London Millennium Bridge had recently taught us a lot about the phenomenon of synchronous lateral excitation (SLE) and we recognised the need to include significant lateral stiffness in the system.

We learnt that there was a good stiff sand layer at some depth and that it might be possible to provide a permanent horizontal anchorage into it within a reasonable cost. However there were significant uncertainties.



The programme did not allow the anchor solution to be proved first before the deck design was started. As an alternative, the decision was taken to investigate a self-anchored suspension bridge solution, which does not need to be anchored into the ground as the tension forces from the catenary are resisted by compression forces in the deck. There are disadvantages because this structural form requires significant strength and lateral stiffness to guard against buckling of the deck and, as there is a compression in the deck to match the tension in the catenary, the additional geometric second-order carrying mechanism of a conventionally anchored suspension bridge is lost.

When designing a bridge all aspects of the design interact. Whereas the cyclists need long approach ramps the pedestrians want a quick route down to the canal side. The opportunity was therefore taken to split the pedestrians from the cyclists before they reached the bank. This resulted in a triangulation in plan which, acting with the longitudinal stiffness of the supporting steel columns, provides the additional transverse stiffness which is needed to make the whole system work. Stiffnesses and dynamic frequencies became key issues as the design was evolved to meet the detailed requirements of aerodynamic stability, SLE and static strength. The aerodynamic performance was proved using a 1:50 scale aero-elastic model in the BMT wind tunnel at Teddington. Tuned mass dampers were specified to control SLE. Because it is a cycle bridge, and marching crowds are not expected, the dampers were designed for a lower crowd density than would be considered for a footbridge. Even so, 9 tonnes of TMD are being provided at midspan and a further 2 tonnes at each quaterspan position.

The design was taken to tender and the contract was won by a consortium of Dutch contractors led by Van Splunder Funderingstechniek of Rotterdam. It has been interesting seeing how the Dutch canal system has been used at every stage of fabrication and erection. Fabrication was undertaken at a number of sites and the sections were transported across the country to be painted, then onwards to Rotterdam where the 187m length for the main lift was assembled before finally being barged to the site on the far side of Amsterdam. Because of the bifurcation and curvature of the deck structure the width for transportation was 21m and it is very impressive that it could be transported in one piece.

On 9 July 2005 the lift, during the single 12 hour closure of the canal, was turned in a public occasion. The citizens of Amsterdam lined the banks as two floating cranes performed a slow 'ballet' manoeuvring the arms of the deck around the masts. There were speeches and then, just before the lift, a curtain fell away revealing the name of the bridge – "Nesciobrug" – in honour of a noted local author. At the end of the day the deck was in place but supported on temporary stays. The hangers for the suspension system are now being added together with the end sections of the deck and the bridge is due to be completed in December 2005.





## Directory

# IABSE British Group

### Chairman

**Professor D.A. Nethercot** FREng FCGI  
Imperial College, London

### Vice-Chairman

**Mr I.P.T. Firth**  
Flint & Neill

### Hon. Secretary

**Dr G.P. Tilly**  
Gifford, Carlton House, Ringwood Road, Woodlands, Southampton. SO40 7HT.  
Tel/Fax: 01252 621430 (H) E-mail: [Graham.Tilly@tesco.net](mailto:Graham.Tilly@tesco.net)

### Hon. Treasurer

**Mr A.C. Oakhill**  
Gifford, Carlton House, Ringwood Road, Woodlands, Southampton. SO40 7HT.  
Tel: 023 8081 7599 Fax: 023 8081 7600 E-mail: [tony.oakhill@gifford.uk.com](mailto:tony.oakhill@gifford.uk.com)

### Executive Committee

Mr A.S. Beard	Mott MacDonald
Dr C.J. Burgoyne	University of Cambridge
Mr C.R. Cockerton	GBG Structural Services Ltd.
Prof. H. Gulvanessian	BRE
Mr W.I. Liddell CBE FREng	Buro Happold
Mr A.M. Low	Arup
Mr A.J. Martin	Arup
Mr S.J. Matthews	WSP Civils Ltd
Dr J.B. Menzies FREng	Consultant
Mr J. Moriarty	London Underground Ltd.
Mr A.J. Pickett	Highways Agency
Mr N. Ricketts	Network Rail
Mr M. Springett FREng	Consultant
Dr J. Tubman	Scott Wilson
Mr K.R. Wilson	FaberMaunsell
Dr J.G.M. Wood	Structural Studies & Design Ltd

### Members of Honour

Mr D.K. Doran FCGI	Mr D.W. Quinion FREng
The Lord Hacking	Mr A.C.E. Sandberg OBE FREng
Mr A.W. Hill	

### 'Structural Engineering International' UK Correspondent

Mr D.K. Doran  
Tel/Fax: 020 8989 9082 E-mail: [David.Doran@btinternet.com](mailto:David.Doran@btinternet.com)

### Editor of 'IABSE News'

Andrew Martin, Arup, Admiral House, 78 East Street, Leeds. LS9 8EE.  
Tel: 0113 242 8498 Fax: 0113 242 8573 E-mail: [andrew.martin@arup.com](mailto:andrew.martin@arup.com)