



Course on Tunnel Design & Construction



The BTS course for 2008 has been remodelled to address the ever changing face of the tunnelling industry and to focus on the project life from inception through to construction. With the recent successful completion of the Channel Tunnel Rail Link and works at Heathrow Airport, the industry looks forward to an increasing workload.

Training of professionals operating in the industry is vitally important as we push the boundaries of design and construction to meet the demands of modern infrastructure.

Paul Hoyland, Chairman, British Tunnelling Society

23-27 June 2008

Brunel University,

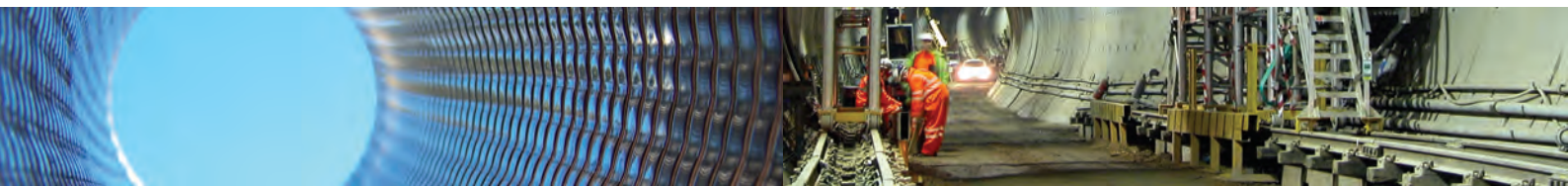
Middlesex, UK

WHO SHOULD ATTEND?

This course is ideal for young consulting engineers and construction engineers at the start of their civil engineering careers. It will also be valuable to representatives from client organisations, or the financial and insurance sectors, with involvement in tunnelling projects.

Course on Tunnel Design & Construction

23-27 June 2008 Brunel University, Middlesex, UK



PROGRAMME (subject to amendment)

THE TUNNEL DESIGN & CONSTRUCTION COURSE

"The BTS course for 2008 has been developed to provide up to date best practice and knowledge for today's tunnelling professionals. It will focus on the project life cycle from project inception through to construction and highlight the current challenges facing the tunnelling industry. With major projects such as Crossrail, Thames Tideway and upgrade works to the London Underground on the horizon the industry has to prepare for a substantially increasing workload.

Training of professionals operating in the industry is vitally important as we push the boundaries of design and construction to meet the demands of modern infrastructure."

Paul Hoyland, Chairman, British Tunnelling Society

THE COURSE

The BTS Tunnelling Course is organised and run by the British Tunnelling Society (BTS), an affiliate member of the Institution of Civil Engineers. The purpose of the course is to provide a comprehensive introduction to all aspects of tunnelling. For 2007 the course has been remodelled to reflect changes in the tunnelling industry and to improve its presentational style. The course will follow the project life and will contain worked examples and workshop sessions to allow improved interaction between delegates and speakers. It is aimed at the wide range of professional services that support the tunnelling industry, including clients, tunnel operators and members of the financial and insurance sectors that may have a vested interest in tunnelling enterprises. It is an invaluable introduction to tunnelling for young engineers from the construction and consultancy sectors to those more experienced engineers who wish to maintain their skills at the leading edge of industry developments. The course speakers are all recognised industry experts in their own fields. The BTS Tunnelling Course is recognised within the industry as providing the highest standard of technical content with the course material being presented in a format designed to engage and inform attendees from a wide range of backgrounds.

WHAT THIS COURSE HAS TO OFFER:

Delegates will upon completion:

- understand current best practice in all aspects of tunnel construction from planning through to construction
- be informed on risk, technical solutions for differing ground conditions and the health and safety aspects of tunnelling projects
- have networked with other delegates and had the opportunity to discuss technical matters with Europe's leading tunnelling practitioners

It traditionally attracts a wide range of attendees from around the world where challenging tunnelling projects demand informed and competent professionals at all stages of the project life cycle. Attendees will gain a comprehensive introduction to all aspects of tunnelling in a wide range of ground conditions. Industry best practice will be presented by leading experts in the various technically challenging fields of tunnelling technology with special emphasis placed on health and safety and major projects.

Monday 23 June

DAY ONE: INTRODUCTION TO TUNNELLING

9.00	Coffee and registration
9.30	Welcome & Introduction Chair – Paul Hoyland, Chairman, BTS
10.00	Creation of Underground Space <i>Helen Natrass, Chief Geotechnical Engineer, Sir Robert MacAlpine</i>
10.50	Financing and Procurement of Tunnelling Projects Speaker t.b.c.
11.40	Coffee
11.55	Health and Safety in Tunnelling Projects PTI <i>Donald Lamont, HM Principal Specialist Inspector, HSE</i>
12.45	Lunch
13.45	Health and Safety in Tunnelling Projects PTII <i>Donald Lamont, HM Principal Specialist Inspector, HSE</i>
14.35	Risk Management and Insurance of Tunnels Projects <i>John Keys, London Bridge Associates</i>
15.25	Workshop
17.00	Discussion/Q&A
17.30	Close

Tuesday 24 June

DAY TWO: PROJECT DEVELOPMENT

8.30	Coffee and registration Chair – Bob Ibell
9.00	Project Management of Tunnelling Projects <i>Bob Ibell, Managing Director, London Bridge Associates</i>
9.50	Stages in Project Development <i>Rob Naybour, Weston Williamson</i>
10.40	Contracts – What Form to Use <i>Alan Finch, Consultant, Mott MacDonald</i>
11.30	Coffee
11.50	Tunnelling Ventilation and Life Safety Engineering <i>Davar Abi-Zadeh, Director, Arup & Leon Hewer</i>
12.40	Lunch
13.40	Design for Safety in Underground Construction <i>John Scholey, Project Manager, Jacobs</i>
14.30	Environmental Aspects <i>Dave Hillar, Associate, Arup</i>
15.20	WORKSHOP
17.00	Discussion/Q&A
17.30	Close



Photographs courtesy of BAA, Terminal 5 Heathrow

Wednesday 25 June

DAY THREE: SPRAYED CONCRETE LINING

Presenters will be :

Colin Eddie (*Morgan est*), Johanness Jaeger, Christian Neumann (*Beton and Monierbau*), Alun Thomas, (*Mott MacDonald*) and Prof. Kusterle

8.30	Coffee and registration
	Chair – Colin Eddie
9:00	Overview – Historical aspect, NATM v's SCL, Future Developments
10:30	Coffee
10.45	Design – Philosophy, Materials and Control of Construction
12.30	Lunch
13:30	Construction – Soft Ground SCL Tunnels in an Urban Environment – Quality Control, Process Control and Competencies.
15:00	Workshop – Design, Constructability, Daily Review Theatre
17:00	Discussion/Q&A
17:30	Close
19.30	Dinner

Thursday 26 June

DAY FOUR: SOFT GROUND TUNNELLING

8.30	Coffee and registration
	Chair – Mike King, Technical Director, Halcrow
9.00	Logistics <i>Ivor Thomas, Civil Engineer, Edmund Nuttal Ltd</i>
10.00	Segmental Lining Design <i>Mike King, Technical Director, Halcrow</i>
11.00	Coffee
11.20	Tunnel Induced Ground Movements <i>Mike Devreindt, Senior Engineer, Arup</i>
12.20	Lunch
13.20	Tunnel Boring Machines <i>Peter South, Director, Jacobs Engineering</i>
14.20	Ground Treatment <i>Bob Essler, Managing Director, RD Geotech Ltd</i>
15.20	Coffee
15.35	Soil Conditioning in EPB and Slurry Tunnelling <i>Ian Morrison, Technical Sales Representative, Morrison Mud</i>
16.35	Site Investigation Techniques and their application <i>Bob Allen, London Bridge Associates</i>
17.30	Close

Friday 27 June

DAY FIVE: ROCK TUNNELLING

8.30	Coffee and registration
	Chair – D. Hindle
9.00	Rock Mass Classification <i>Chris Power, Principal Engineer, Mott MacDonald</i>
10.00	Highway Tunnel Design <i>Chris Bambridge, Associate, Mott MacDonald</i>
11.00	Coffee
11.20	Hard Rock TBM Tunnelling <i>Brian Cotton, Technical Director, Commercial Structures & Systems</i>
12.20	Lunch
13.20	Hard Ground Temporary Works Techniques <i>David Hindle, Geotechnical Engineer, Otb Engineering Limited</i>
13.20	Coffee
14.45	Project Presentation The A3 Hindhead Road Tunnel <i>Paul Hoyland, Balfour Beatty</i>
16.00	Close





ADMINISTRATION DETAILS

The 5 day course will take place from 23 to 27 June at the Brunel University, Uxbridge, Middlesex, UB8 3PH

Registration fees

Residential fee (includes accom Sun – Thurs nights)	£985 + VAT* = £1157.38
Residential fee (includes accom Mon – Thurs nights)	£955 + VAT* = £1122.12
Non residential fee	£755 + VAT* = £887.12

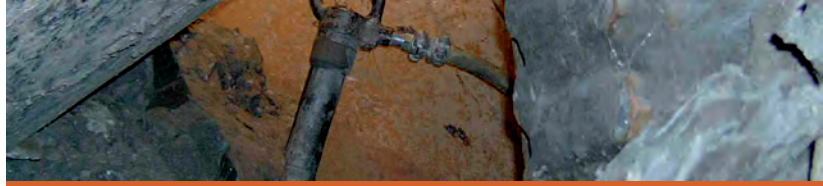
*VAT at 17.5%

Fees include attendance at the course, delegate documentation and catering during the course. Residential fees include dinner, bed and breakfast. Registration forms should be returned together with a cheque, credit card details or an invoice request. The following cards are accepted: MasterCard, Visa, Amex, Switch and Delta.

Bookings and enquiries

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Terms and conditions

Booking Conditions

A confirmation letter will be sent to you on receipt of your booking. If you have requested an invoice one will be sent to you from Thomas Telford Ltd, a wholly-owned subsidiary of the Institution of Civil Engineers. Payment must be received before the conference date. If payment is not received, delegates will be asked to guarantee payment with a personal credit card.

Joining Instructions

Joining instructions will be issued subject to receipt of payment. We cannot be held responsible for the non-arrival of registration information. If you have not heard from us within **14 days** of the conference date, please contact The Events Team.

Cancellations / Substitutions

Cancellations and substitutions must be made in writing. Cancellations made four weeks before the event will be charged at 10% of the invoice total (minimum charge £75 plus VAT). Cancellations made between four weeks and two weeks will be charged at 50% of the invoice total. Cancellations made after this period will be charged the full invoice amount. However, you can send a substitute delegate at any time. Bookings received less than two weeks before the conference date can only be paid by credit card. Cancellations and substitutions must be made in writing. Non-attendance at the event will be considered a late cancellation and the full fee will be payable.

It may be necessary for reasons beyond the control of the organisers to alter the content and the timing of the programme or the identity of the speakers. In the event that the conference has to be cancelled you will be entitled to a full refund of your delegate fees. The Institution of Civil Engineers will not be responsible for the reimbursement of any other costs incurred by potential delegates.

Special Arrangements

If you have any additional requirements, such as wheelchair access or special dietary needs, please let us know in advance.

Conference Language

English, unless otherwise stated.

Please Note Normal conference fees cover entrance to all sessions, conference documentation and available papers, coffee/refreshment breaks and lunch. However, where stated, some special promotional delegate offers may exclude some or all of these items. We are sorry that we are unable to accept provisional bookings.

Data Protection

The Institution of Civil Engineers and Thomas Telford Ltd, are committed to protecting your privacy and security. From time to time we may invite you to supply personal information in order for us to provide you with services. In order to deliver such services, we will need to process and store your personal information and may need to transfer it to the relevant partner(s) such as ICE regional representatives, for processing both inside and outside the European Economic Area. By submitting your personal information, you consent to such processing and transfers in connection with such orders, offers or services and for any other purposes to which you consent at the time you provide the information. We will never wilfully disclose personal information about you to any third party, other than to process an order, without first receiving your permission or unless we are under a legal obligation to do so.

General

Nothing in these Terms and Conditions shall restrict or exclude any liability that we have to any party that cannot be excluded by law. These Terms and Conditions shall be governed by English law, and the courts of England and Wales shall have exclusive jurisdiction over any disputes arising.

Submission of this booking constitutes a legally binding agreement. UK delegates may request an invoice and requests must be endorsed with either a purchase order number or by an authorised signatory. For your reference our VAT registration number is GB 240 8777 47.

