Meet the Committee

Davar Abi-Zadeh
Arup Fellow, Consultant
Ove Arup & Partners, London, UK
Dr Abizadeh completed his degrees from Imperial College, University of London in 1976. He joined Ove Arup as a mechanical engineer and was promoted to various responsibility levels and became a director of Arup in 2001. He is now an Arup Fellow and a consultant.
Dr Abi-Zadeh has a broad knowledge of industrial engineering. He has been involved in design and construction of many iconic projects globally including Lloyd’s building in London, Automotive plants for Toyota, Opel and General Motors, pharmaceutical plants for GlaxoSmithKline, Pfizer, Biogen, and UK Cancer Research. His tunnel projects includes Palau Soraya cable tunnels in Singapore, West Harbour Crossing tunnel in Hong Kong, 2nd Ave Subway in New York, Mashhad Light Rail way in Iran, Ciyringn Metro in Denmark and many London Underground Station networks. His present works includes Doha Metro.

Ignacio del Rey Llorente
Head of the Tunnels Fire Safety Group
Centro de Modelado en Ingeniería MECánica (CEMIM)
He is Dr. Engineer by the Technical University of Madrid UPM and electromechanical engineer by the Universidad Pontificia de Comillas
At present he combines his role as Professor at the Technical School of Industrial Engineer within UPM and head of the group of Tunnels Fire Safety in CEMIM (Centre for numerical modelling in Mechanical Engineering)
He has been involved in road tunnel safety projects for the most emblematic infrastructures along Spain among which it is worthwhile to mention the transnational Somport tunnel (8,6 km) between France and Spain, the Madrid Calle 30 project, the 45 km tunnels network in Madrid, and the Vielha tunnel (5,6 km).
Since 2000 he has been actively working in the activities of different working groups of the PIARC Road Tunnels Operations Committee. At present he is the Chairman of this Committee and in the previous cycle he has been involved in its working group on ventilation as joint-coordinator. Since 1996 he has also been a member of the Spanish National Road Tunnels Committees (Asociación Técnica de Carreteras). He continues developing his professional activities as advisor and consultancy in the road tunnels safety field.

Ian Sweetland
Managing Director
Yyss Ltd
• Qualified and trained as a mining engineer in soft rock / coal mining, a Chartered Engineer, European Engineer and MBA. 30 years experience in various underground construction environments in both management and technical capacities.
• Experienced across a wide range of infrastructure projects from feasibility through concept, detail design, construction to test and commissioning, ongoing maintenance, refurbishment/upgrade as well as troubleshooting.
• Focussed on value engineering, efficiency, safety and integrated delivery.
• Yyss Ltd offers consultancy and contract services internationally.
• Air movement interest extends outside working hours as a passivhaus builder, aircraft builder and pilot.

Carlo Barbetta
Consultant and Sales Coordinator
Systemair Group
Education with Technical College in Mechanics, Diploma at Politecnic of Milan in Mechanical science.
Started to work in a Fan Manufacturer Company for 35 years following the application in Metro, rail and road tunnels, the latter represent the main application and development especially in the longitudinal ventilation. MD of the Italian branch until 2008 and then join the Systemair Group with the MD position of the Italian subsidiary always involved in the underground business. End the MD position in 2011 and now cooperating with the same Group as a Consultant for the underground business in South Europe.

Joseph J. Grella
Director Facilities Design
National Railroad Passenger Corporation (AMTRAK)
Master of Science in Mechanical Engineering: The Pennsylvania State University
Registered Professional Engineer: Pennsylvania, New Jersey, New York, California & Oregon
Member: American Society of Heating Refrigerating and Air-Conditioning Engineers
Member: American Society of Mechanical Engineers
Alternate Member: 2007 NFPA 130 Technical Committee
Career: General Electric Company (1974) – Aerospace thermodynamics for re-entry vehicle design; Kling-Lindquist Architect/Engineers (1990) – Building mechanical services design; AMTRAK (1991) – Rail transportation facilities design
Present Work: Design of buildings and facilities for passenger rail operations – including repair shops, service and inspection facilities and tunnel ventilation & life safety.
Interests: Photography, automobile mechanics and travel.
Kate leads Parsons Brinckerhoff’s UK tunnel ventilation and fire engineering team. She has over 20 years’ experience in the analysis and design of ventilation systems for rail, road and cable tunnels in a variety of countries, as well as experience in testing, commissioning and maintenance of plant and control systems. She has experience at all stages of projects from preparation of feasibility studies, initial concept design, through to detail design, installation and commissioning, operation and refurbishment works.
Rune Brandt
CEO
HBI Haerter

Dr Rune Brandt heads the renowned and internationally reputed consultancy HBI Haerter. Since 1963, the tunnel ventilation and the safety concept of more than 600 tunnels worldwide have been designed by HBI Haerter that has offices in Switzerland and Germany. Moreover, pollution dispersion modelling and risk assessment is part of the core services.

Dr Rune Brandt is active in PIARC’s tunnel working group 4 on Fire Safety “Best practise of Fixed Fire Fighting Systems in Road Tunnels”. Moreover, he serves on several scientific committees. HBI Haerter follows projects from first ideas over preliminary and detailed design to tendering, site supervision and operation.

Dr Rune Brandt holds a Ph.D. from Cambridge University (UK), is Eur Ing and has a M.Sc. from the Technical University of Denmark.

John Reginald Gillard
Consultant. (Retired from full time employment at the end of 2006)
Formerly General Manager of Mersey Tunnels, UK

Graduated from University of Liverpool in 1964 with an Honours Degree in Engineering. After 21/2 years in fluid dynamics research moved to general design and construction. Chartered Engineer 1971. From 1966 to 1984 worked in transport, urban infrastructure, airports, petrochemical and other industrial engineering. Held senior positions with Public Sector Clients, Consultants and Contractors in UK and overseas.

In 1984 joined Mersey Tunnels and after a short period as Chief Engineer was appointed General Manager. Has wide experience of all aspects of management of tunnels operations and maintenance. Contributing author to “Handbook of Tunnel Fire Safety” and several PIARC publications. Founding Chairman of U.K. Tunnel Operators’ Association.

Software:
1. Author and supplier of the tunnel airflow software ThermoTun (rail)
2. Inventor and lead developer of tunnel control software MPVC (road)

Consultancy:
- Specialist advisor in tunnel aerodynamics, ventilation and control

Research interests:
- Transient flows in networks
- Micro pressure wave assessment and suppression
- Pipeline condition monitoring
- Micro-scale modelling of turbulent wall boundary layers
- Practical numerical analysis

Related interests:
- Safe tunnel operation
- Responsible uses of the world’s resources
- Irresponsible uses of the world’s wine

Bruce Dandie
Consultant

Bruce Dandie is an expert with more than 30 years of international experience in mechanical and multidisciplinary projects, including program management from concept to handover, feasibility studies, cost-benefit analysis, construction management, and engineering coordination.

Bruce has served as senior design manager for a major engineering firm where he managed and operated complex engineering and construction projects. He is a member of The American Society of Heating, Refrigerating and Air Conditioning Engineers; the Institution of Engineers, Australia; the Mechanical College of the Institution of Engineers, Australia; the Australian Tunneling Society; and serves on a working group for the World Road Association (PIARC).

Norman Rhodes
Senior Vice President
Parsons Brinckerhoff

BSc, MSc, PhD FIMechE and member of ASME. Former chair of the IMechE Thermofluids Committee, PIARC working group on Fire & Smoke control, FIT thematic network.

- Y-ARD Ltd, involved in all aspect of secondary machinery design in frigates and submarines
- CHAM Ltd, Development and application of the world’s first general purpose CFD code and development of the first 3D smoke movement prediction methods
- Mott MacDonald, Established simulation and modelling group – much tunnel ventilation work, developed the STEPS pedestrian modelling program.
- Hatch Mott MacDonald (USA), Practice Leader – Life Safety & Security - for North America and Canada
- Present role: Parsons Brinckerhoff, Technical Director, Mechanical & Electrical TEC
- I retain a strong interest in modelling and pushing the boundaries of realism in terms of visualization.
Conrad Stacey  
*Stacey Agnew Pty Ltd*  
In professional life, Dr Stacey has had technical roles in a wide variety of fields:

- hypersonics research of his PhD;  
- design and plant engineer in the mining industry;  
- open channel hydraulics and fluvial processes in floodplains, streams and estuaries;  
- managing livestock heat stress risk;  
- managing an operations research and simulation group and, currently;  
- ventilation and fire life safety in underground infrastructure.

Conrad’s engineering work and advocacy on heat stress risk management in livestock export dramatically reduced the risks of animal heat stress between Australia and the Middle East. The work won an Engineering Excellence Award from the Queensland Division of Engineers Australia.

There is the usual list of road and rail tunnel projects, but more unusual or memorable projects and places have been:

- Copper ore flow and ‘piston effect’ ventilation at 3000 m in the highlands of West Papua.  
- Bangkok and Delhi for the initial Metro projects in those cities.  
- World Trade Center (Manhattan) re-building  
- Loading livestock in the Kimberley (north of West Australia)  
- Tumut 1 underground hydro station high in the Snowy Mountains, New South Wales  
- Mine water clarifiers 3 km underground near Johannesburg  
- Clem 7 road tunnel that was actually in Brisbane where Stacey Agnew is based  
- Otira Tunnel (rail) on the central range in New Zealand’s South Island  
- Setting up Sam the bus for tunnel fire testing  
- Energy analyses of various states of an earth model to look at power sources for the geodynamo. (This work came about through collaboration with his geophysicist father Frank).  
- Theoretical development of an ambidextrous boomerang, together with construction of equipment to manufacture them quickly and repeatably.

Robert Arditì  
*Director of Scientific Affairs*  
*SINA S.p.A. Group*  
(part of the ASTMSIAS motorway operator group)  
Degree in Electronic Engineering when he was 23 years old. He worked for more than 25 years in the field of roads and engineering.

**Past experience:**

In his experience he contributed to several Governmental, Intergovernmental and Association Commissions: e.g. Expert and Member for the Commissions of the Italian Higher Council of Public Works, the “Italian National Board for the Forecast and Prevention of Main Risks of the Italian First Minister Office”, AISCAT Permanent Commissions, Independent expert of the European Commission DG TREN, co-chair of ASECAP permanent committee nr. 3, chair of PIARC Task Force on “road security”, member of the international technical Committee of PIARC on “National Road Safety Policies and Programmes” and chairman of the Italian mirror committee, co-chair of iMobility forum. Member and rapporteur of national Policy commissions on road safety and road construction of Italian Ministry, independent expert of EC, member of UN-ECE groups of experts, etc. He was member of the technical or scientific committee of more than 20 international and national conferences (… including BHRg ventilation symposiums) and held more than 100 lectures in universities or other fora in the mentioned fields of interest.

**Activities within the current position:**

He contributes to multidisciplinary groups for the activities of design, works direction and study in the following field of the engineering: infrastructures and equipments design, evaluation and analysis of the risk in transports, transport studies and technical/economic evaluations, evaluations of environmental impact, technical coordination of European projects studies and implementation in the framework of Intelligent Transport Systems (ITS). He is also animateur of the working group on Road and Tunnels safety of the ASTM-SIAS group.

Masanobu Iida  
*General manager, Environmental Engineering Division*  
*Railway Technical Research Institute, Japan*  

- Doctor of Engineering  
- Over 20 years of research experience in railway aerodynamics, especially pressure wave phenomena caused by a high-speed train running through a tunnel  
- About 5 years of research management experience in the field of wayside environmental problems such as noise and vibration

Igor Maevski, PhD, PE  
*Tunnel Ventilation Principal, Fellow*  
*Jacobs Engineering*  

- NFPA 502 Principal Committee Member, Chairman on Tunnel Egress Subcommittee;  
- ASHRAE Vice Chairman of Technical Committee 5.9 Enclosed Vehicular Facilities;  
- 27 years of experience in tunnel ventilation and tunnel fire life safety  
- Author of the US TRB NCHRP Synthesis Study 415 “Design Fires in Road Tunnels”