## Speaker Biographies

### David Clarke, Deputy Director Rail Systems, Department for Transport

David was appointed Deputy Director, Rail Systems at the Department for Transport in 2008. He has responsibility for providing technical advice and challenge on policy and projects, as well as management of the rail research budget and DfT's input to the Rail Technical Strategy. His current responsibilities include co-ordination of the DfT contribution to the industry wide work on electrification.

A Chartered Civil Engineer he has worked in the rail industry since 1985. Prior to joining DfT he was Business Development Director for one of the large UK Rail Infrastructure Contractors. His experience includes; project management, management of major rail bids in the UK and internationally, corporate restructuring, technical innovation, strategy development and continuous improvement.

David's earlier career was with British Rail where he was fortunate enough to gain experience in all aspects of rail civil engineering, particularly permanent way. Post privatisation he became a Maintenance Contract Director managing multi-disciplinary rail maintenance contracts before moving into bid management and process improvement.

### Kuldeep Gharatya Head of Systems Engineering, London Underground

Kuldeep Gharatya is a Chartered Mechanical Engineer with over 10 years experience in metro rail engineering as currently serves as The Systems Engineer for London Underground.

Kuldeep has a wide range of experience ranging from working as a mechanical and electrical engineer focusing on improving rolling stock performance, train systems simulation engineer, a project engineer on the Jubilee Line Extension to being an LU business client. With this far ranging experience he became the Deputy Systems Engineer in 2001 taking over the reigns as the head of Systems Engineering in 2004.

In this present role he has overseen the development of the systems team, including Human Factors and EMC, into a core part of the Engineering Directorate. London Underground recognizes that SE will play a critical role in the successful delivery of the £30 billion modernization program. He is rising to the challenge of embedding systems engineering in both in LU and in the supply chain by focusing on the simple concepts that are essential to good SE.

He has a Masters Degree in systems engineering from University College London and is on the founding interest committee of the INCOSE Railway Interest Group (RIG) as well as being a member of the Intelligent Transportation and Transit Systems working group (ITTS).

### Colin Wood, Systems Engineer, London Underground

Colin Wood is a Systems Engineer with over 7 years experience in rail engineering with Bombardier, GE Transportation, Tube Lines and London Underground, joining LU in 2006, having previously consulted with the Advantage Business Group. He describes SE as his 4th engineering career, having worked in the fields of pedagogical, mechanical and software engineering in the defence, aerospace and air traffic management sectors for an exceedingly long time. He has 'two hats' in LU: with the Line Upgrades Directorate as a network SE and as a practicing architect on the SSR Upgrade Programme. Colin is an active member of the INCOSE Railway Interest Group. He is recognised as a 'thought policeman' in the world of semantic iconographics.

### Miech Groeneveld, Head of Projects and Specification, ProRail,

Miech Groeneveld is head of the projects and specification team within the ProRail Treinbeveiliging department. He manages a number of ProRail projects that are using the system engineering approach. These projects include the project for developing the safety system for the Betuweroute and the project for specifying the requirements for the new generation of safety systems to be used within The Netherlands. He is working for ProRail since 1999. After he graduated in 1986 (Technical University Delft, Computer Science) he worked for Thales (Hollandse Signaalapparaten and Thomson-CSF) as project manager on various large international projects in The Netherlands, Singapore and France. In these projects he also applied the system engineering approach and introduced the corresponding MIL and DOD standards.

### Mike Stubbs, Head of Engineering, London Overground Infrastructure, Transport for London

Mike Stubbs is a Chartered Engineer who started his career in 1980 with London Underground on railway signalling; before moving to Metro Cammell to work on systems and rolling stock.

He then spent nearly 15 years with Kennedy & Donkin, then Parsons Brinckerhoff, where he worked on a number of railway systems including light rail, metro and heavy rail in the UK and Hong Kong. He spent a number of years in Hong Kong managing the design and implementation of the new signalling control and communication system on the Kowloon Canton Railway East Rail.

The last 6 years have been spent on the TfL East London Line Project as Head of Engineering, where he has lead the development of the engineering concept and solution through preliminary design into design and construction. His focus in this role is to ensure that the project delivers to London Overground a complete safe, operable and maintainable railway.

### Erik Elich, Monto

Erik Elich is an independent consultant in change and engineering management. Apart from the public sector, he gathered his knowledge and experience in the Electronics, defence, medical, banking and IT industry. Erik holds a Master of Science in Electrical Engineering. He started with the application of Systems Engineering in 1984 when introducing Just In Time production principles within factory automation. In 1995 he founded Monto and held various project management and consultancy positions, lately within the transportation and civil construction industry. Erik is fascinated by the "suspense of old and new, between now and endurance". His device is balance in change. He acts as a source of power with a strategic view, but always connected to the daily operation.

### Richard Beasley, Rolls Royce

Richard Beasley is corporate skill owner for Systems Engineering in Rolls-Royce. He joined Rolls-Royce in 1986 as a Physics graduate from Bristol University, and has worked in the Defence field at Rolls-Royce ever since. Initially he worked in Installation Aerodynamics, where he eventually ran the Rolls-Royce UK military installations and stealth research programmes. He then moved to lead development of Life Cycle Engineering to address the needs of aftermarket. He is now working on the application of Systems Engineering, and is the corporate Skill Owner for Systems Engineering for all of Rolls-Royce. He is a Fellow of the Royal Aeronautical Society and a Chartered Engineer.

### Brian Halliday, Network Rail

Brian Halliday has 35 years wide ranging experience in the field of Systems & Reliability Engineering. During the seventies, working within the Systems Design Group of Hawker Siddeley Aviation, he was involved in the design of the HS146 and A300 Airbus aircraft undertaking a wide range of safety, reliability, maintainability, and support cost studies for those designs. Subsequently, he worked as RAMS Manager for Hunting Engineering, a major Defence Prime Contractor, and was responsible for those aspects on all of the Company's development projects, many involving complex high integrity systems. He also provided specialist support to external customers in the Defence, Aviation, Nuclear and Rail sectors. In 1997 Brian joined Railtrack, now Network Rail, and applied his considerable experience as the Systems Engineering Manager on the £10bn West Coast Route Modernisation programme. He currently leads the Systems Integration & Reliability effort across all major enhancement projects, including development and application of a powerful suite of Railway system analysis tools and simulation models.

### Jeremy Gill, Atkins

Jeremy Gill started out his career as a Trainee Technician for British Rail Signals and Telecoms and after completing his training moved on to work for Eurotunnel in the Signalling Department, moving on to technician training and eventually managing Safety Quality and Productivity in the Productivity and Support Department.

In 2001 he moved to Westinghouse Signals and spent the next 7 years working on London Underground Signalling Projects. This included positions in Systems Assurance, System Engineering and Performance Modelling before spending 3 years as Project Systems Engineering Manager on the LUL Sub Surface Lines Re-signalling Project. Jeremy is now a Senior Systems Engineer within Atkins' Rail Systems Consultancy, working on Multidisciplinary Rail projects.

### Alun Jones, Atkins

Alun Jones is a Chief Engineer with Atkins, specialising in the application of systems engineering to rail projects. He has participated in system engineering projects within the UK and European Rail industries since 1996. He is a software engineer by background with over 30 years industrial experience.

His systems engineering experience includes: feasibility studies for rail infrastructure modernisation projects; requirements management of very large programmes; safety management and product acceptance; and the development of system specifications, architectures and designs (especially software intensive systems). Most recently he has led the Requirements Database Management team for a £300M station modernisation programme on the London Underground.