

## DR STUART BURGE

### CONSULTANT PARTNER



### Expertise

**Stuart** is widely known in industry and academia for his expertise in Systems Engineering and particularly system design. He is recognised for his pragmatic approach to Systems Engineering and his ability to explain how to actually do practical Systems Engineering. The 5-day Systems Engineering training course that Stuart designed has been adopted by several world class organizations such as BAE Systems, Rolls-Royce, MBDA, and [dstl].

For the last 15 years Stuart has worked with a large number of clients helping them improve their Systems Engineering. This has been through the design and delivery of training courses, coaching and facilitating individuals and project teams and undertaking research into Systems Engineering and System Design.

Stuart has specific skills in:

- Life Cycle Management
- Systems Engineering Processes
- Systems Engineering Tools
- Planning Systems Engineering activities
- Requirements Engineering
  - Gathering Requirements
  - Analysing Requirements
  - Specifying Requirements
- System Design
  - Conceptual Design
  - Design Optimisation
  - Robust Design
- System Verification

Stuart is also a Six Sigma Master Black Belt who specialises in Design for Six Sigma.

Stuart has strong links with academic institutes and is or has been a Visiting Fellow of the Universities of Lancaster, Loughborough and Salford. Stuart has published over 40 technical papers, journal articles and has published a textbook on intelligent Systems Design. He is currently writing to two further books on Systems Thinking and Systems Design.

### Clients

**Stuart** has worked with and continues to work with a large number of world-class companies that include; Selex, [dstl], Qinetiq, BAE SYSTEMS, MBDA, Rolls-Royce, Jaguar-Land Rover, E2V Technologies, Cooper Standard Automotive, Network Rail, Pilkington Glass, and Vodafone. All of this work has been concerned with project-based improvement and system design.

He is currently working with BAE Systems delivering Systems Thinking and Systems Engineering training. He is also involved in a number of projects including the development of Systems Approaches to Design for Manufacture. For the last few years Stuart has been working with Rolls-Royce ranging from delivering Systems Engineering training, *ab initio* system design through to embedding systems engineering within the company.

Stuart is also working with several new clients including NSC and ST Kinetics of Singapore.

### History

Stuart read Mechanical Engineering at Salford University for which he obtained a first class honours BSc in 1981. In his early career Stuart was employed by British Aerospace (now BAE SYSTEMS), where he conducted research into the design of advanced multivariable flight control systems. He obtained his doctorate in 1984 and continued working for BAE as an aerodynamicist until 1985. In 1985 he joined CAP Scientific as a Systems Engineer, where he was part of the successful bid team for the Trident submarine Command and Communications System (at that time the biggest single systems engineering project in the UK). Later he became the engineering team leader on the design and implementation of high integrity nuclear reactor control systems.

Stuart returned to work for British Aerospace on a jointly funded project with the University of Salford. This work was concerned with the development of approaches to the design of complex systems.

In 1989 he obtained a lectureship in Engineering at Lancaster University with the purpose of teaching students proper engineering. During this period Stuart was involved in research and consultancy in quality of design and mechatronic systems design. This research together with his industrial experience laid the foundation for the development of a unique systems approach to system design that is the basis of the BHW 5-day Systems Engineering course.

Stuart was recruited by GEC in 1998 to exploit his knowledge of systems thinking and quality improvement to help the company implement Six Sigma. Since then Stuart has been actively involved in helping several companies successfully deploy both Six Sigma Process Improvement (DMAIC) and Design For Six Sigma.

In 2000 Stuart, together with Stephen Walsh and John Hughes, formed the consultancy and training company Burge Hughes Walsh.