

## Profile

Matthew Gilbert co-founded LimitState Ltd in 2006 with the aim of making available to practicing engineers various promising *computational limit analysis* techniques developed at the University of Sheffield. These techniques are now being successfully applied to a range of practical structural and geotechnical engineering problems.

He is a chartered civil engineer and organisations sponsoring his research whilst employed at the University of Sheffield have included EPSRC, Network Rail, Buro Happold and the International Union of Railways (IUC). From 2004-09 he held a prestigious EPSRC Advanced Research Fellowship, focusing on the development of techniques now being made widely accessible by LimitState.

## Education

- PhD, Civil Engineering, University of Manchester, 1993.
- BEng (first class), Civil & Structural Engineering, University of Sheffield, 1989.

## Appointments held

- Managing Director, LimitState Ltd, 2006-present.
- Lecturer / Senior Lecturer / Reader / Professor, University of Sheffield, 1996-present.
- Research Associate, University of Sheffield, 1993-96.
- Research Assistant, University of Bolton, 1990-93.
- Site Engineer, Henry Boot (Northern) Ltd, 1989.

## Awards

- CEGB Prize in Civil Engineering, 1989 (awarded by University of Sheffield).
- Institution of Structural Engineers Husband Prize, 1999.
- EPSRC Advanced Research Fellowship, held 2004-09 at the University of Sheffield.
- Institution of Civil Engineers Baker Medal, 2007.

## Service to Professional Bodies

- Editorial Panel Member, Institution of Civil Engineers 'Engineering and Computational Mechanics' journal, 2007-12.
- Member of EPSRC Peer Review College.

## Selected Published Software

- RING / LimitState:RING masonry arch analysis software (1992-present; originator).
- LimitState:GEO geotechnical analysis software (2007-present; contributor).

## Selected Publications

- Tyas, A., Pichugin, A.V. and **Gilbert, M.**, 'Optimum structure to carry a uniform load between pinned supports: exact analytical solution', *Proceedings of the Royal Society A*, Vol. 467, pp. 1101-1120, 2011.
- **Gilbert, M.**, Smith, C.C., and Pritchard, T.J. 'Masonry arch analysis using discontinuity layout optimisation', *Proceedings of the Institution of Civil Engineers, Engineering and Computational Mechanics*, Vol. 163, pp. 155-166, 2010.
- Smith, CC and **Gilbert, M.**, 'Application of discontinuity layout optimization to plane plasticity problems', *Proceedings of the Royal Society A*, Vol. 463, pp. 2461-2484, 2007.
- **Gilbert, M.** and Tyas, A., 'Layout optimization of large-scale pin-jointed frames', *Engineering Computations*, Vol. 20, No. 8, pp. 1044-1064, 2003.
- Melbourne, C., **Gilbert, M.** and Wagstaff, M., 'The collapse behaviour of multi-span brickwork arch bridges', *The Structural Engineer*, Vol. 75, No. 17, pp. 297-305, 1997.
- **Gilbert, M.** and Melbourne, C., 'Rigid-block analysis of masonry structures', *The Structural Engineer*, Vol. 72, No. 21, pp. 356-361, 1994.