

DR. ANTHONY GEOFFREY SHEARD

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SUMMARY OF PUBLICATIONS

Research Stream 1: Turbomachinery Test Facility

Documents the mechanical and aerodynamic design of a high-pressure gas turbine stage transient test facility. This work was undertaken during and immediately following Dr Sheard's time as a doctorate student with the Oxford University turbomachinery group.

Research Stream 2: Turbomachinery Instrumentation

Documents development of gas turbine instrumentation. This work was undertaken by Dr Sheard over a twenty years period from the late 1980's to the early 2000's. This research stream culminated in publication of the book "*Tip Clearance Measurement in Aero and Industrial Turbomachinery*" that formed the first of four parts of Dr Sheard's Doctor of Science (DSc) thesis.

Research Stream 3: Industrial Turbomachinery Design

Documents the design of steam turbines, industrial gas turbines and industrial fans and their application into power and gas-compression applications. During the late 1990's and early 2000's Dr Sheard was responsible for the design of each, documenting novel design methods in the publications that form this research stream.

Research Stream 4: Industry Regulation

Documents the practical application of new regulation to air movement fan designs. During the early 2000's until the early 2010's Dr Sheard was an active member of the European regulatory community, publishing on different aspects of the real-world application of the various regulations as they came into force within the European Union.

Research Stream 5: Leadership Development

Documents work undertaken by Dr Sheard, starting in the early 2000's focused on the development of new leadership theory, and its practical application. Selected publications from this research stream were used as a basis for Dr Sheard's PhD by publication on leadership and team development, and then adapted into Dr Sheard's book "*Leadership Teams: Developing and Sustaining High Performance.*"

Research Stream 6: Passive Noise Control

Documents the development of new computational and experimental measurement techniques, their application to development of a blade-tip treatment design methodology, and the use of that methodology to design a new low-noise air movement fan. This research stream culminated in publication of the book "*Passive Noise Control in Industrial Fans*" that formed the second of four parts of Dr Sheard's Doctor of Science (DSc) thesis.

Research Stream 7: Stall Detection and Control

Documents the development of new stall detection and control techniques, and their application in the design of stall resistant industrial fans. This research stream culminated in publication of the book "*Stall Detection and Control in Industrial Fans*" that formed the third of four parts of Dr Sheard's Doctor of Science (DSc) thesis.

Research Stream 8: Computational Methods

Documents the development of new computational methods, and their application to the design of high-efficiency air movement and industrial fans. This research stream culminated in publication of the book "*The Application of Computational Methods in Industrial Fan Design*" that formed the fourth of four parts of Dr Sheard's Doctor of Science (DSc) thesis.

Research Stream 9: Miscellaneous

Documents research undertaken by Dr Sheard that does not fit into one of the above research streams. This research stream is notable in this it includes one of the earliest publications on the application of a configurator to configure an air movement fan bill-of-material from its associated fan code. The research stream is ongoing, as Dr Sheard continues to give invited presentations at tradeshow, conferences, and contribute articles to practitioner journals.

The table below constitutes an analysis of Dr Sheard’s publications, breaking them down by type of publication and research stream. In so doing transparency is provided into the extent to which Dr Sheard has published in each research stream and the type of publications associated with each.

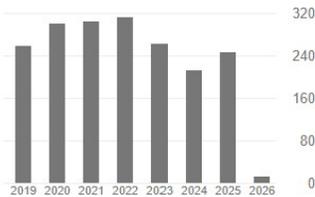
The main body of this document summarizing Dr Sheard’s research makes extensive use of footnotes. These footnotes are used to cross-reference publications, such that for example there is a reference back to a conference publication, if a journal paper was first published at a conference and then selected for publication in a journal by the conference organizing committee. Other footnotes clarify that a paper won a conference or journal prize.

Research Stream	1: Turbomachinery Test Facility	2: Turbomachinery Instrumentation	3: Industrial Turbomachinery Design	4: Industry Regulation	5: Leadership Development	6: Passive Noise Control	7: Stall Detection and Control	8: Computational Methods	9: Miscellaneous	Total Publications
Refereed Journal Articles	2	5	2	1	15	14	10	13		62
Refereed Journal Monographs					2					2
Registered Patents		2				1	3	1		7
Books	1	1			2	1	1	1	3	10
Book Chapters		10		2	1	18	15	16		62
Conference Proceedings Publications	4	11	7	6	2	16	17	25	4	92
Practitioners’ Journal Article		1		7					5	13
Papers Presented at International Conferences		2	1	3	1	4		3	5	19
Book Reviews					1					1
Total Publications	7	32	10	19	24	54	46	59	17	268

Journal article and patents 71

Cited by [VIEW ALL](#)

	All	Since 2021
Citations	3911	1351
h-index	31	15
i10-index	74	19



RESEARCH STREAM ONE

TURBOMACHINERY TEST FACILITY

Refereed journal articles

1. Ainsworth, R.W., Allen, J.L., Davies, M.R.D., Doorly, J.E., Forth, C.J.P., Hilditch, M.A., Oldfield, M.L.G. & Sheard, A.G. (1989), 'Developments in Instrumentation and Processing for Transient Heat-Transfer Measurements in a Full-Stage Model Turbine'¹. *Transactions of the ASME, Journal of Turbomachinery*, vol. 111, pp 20–27.
2. Sheard, A.G. & Ainsworth, R.W. (1992), 'Aerodynamic and Mechanical Performance of a High-Pressure Turbine Stage in a Transient Wind Tunnel'². *Transactions of the ASME, Journal of Turbomachinery*, vol. 114, pp 132–40.

Book

3. Sheard, A.G. (2011), *Aerodynamic and Mechanical Performance of a High-Pressure Turbine Stage in a Transient Wind Tunnel*³. Lambert Academic Publishing AG & Co. KG, Köln, Germany.

Conference proceedings publications

4. Ainsworth, R.W., Allen, J.L., Davies, M.R.D., Doorly, J.E., Forth, C.J.P., Hilditch, M.A., Oldfield, M.L.G. & Sheard, A.G. (1988), 'Developments in Instrumentation and Processing for Transient Heat'. *Proceedings of the 33rd American Society of Mechanical Engineers Gas Turbine and Aeroengine Congress*. Amsterdam, Netherlands, 6–9 June, Paper No. 88-GT-11.
5. Ainsworth, R.W., Schultz, D.L., Davies, M.R.D., Forth, C.J.P., Hilditch, M.A., Oldfield, M.L.G. & Sheard, A.G. (1988), 'A Transient Flow Facility for the Study of the Thermo-Fluid Dynamics of a Full-Stage Turbine under Engine Representative Conditions'. *Proceedings of the 33rd American Society of Mechanical Engineers Gas Turbine and Aeroengine Congress*. Amsterdam, Netherlands, 6–9 June, Paper No. 88-GT-144.
6. Sheard, A.G. & Ainsworth, R.W. (1990), 'Aerodynamic and Mechanical Performance of a High-Pressure Turbine Stage in a Transient Wind Tunnel'. *Proceedings of the 35th American Society of Mechanical Engineers Gas Turbine and Aeroengine Congress*. Brussels, Belgium, 11–14 June, Paper No. 90-GT-353.
7. Sheard, A.G., Dietz, A.J. & Ainsworth, R.W. (1992), 'The Dynamic Characteristics of a High-Pressure Turbine Stage in a Transient Wind Tunnel'. *Proceedings of the 37th American Society of Mechanical Engineers Gas Turbine and Aeroengine Congress*. Cologne, Germany, 1–4 June, Paper No. 92-GT-166.

¹ First published as Paper No. 88-GT-11 in *Proceedings of the 33rd American Society of Mechanical Engineers Gas Turbine and Aeroengine Congress*. Amsterdam, Netherlands, 6–9 June 1988.

² First published as Paper No. 90-GT-353 in *Proceedings of the 35th American Society of Mechanical Engineers Gas Turbine and Aeroengine Congress*. Brussels, Belgium, 11–14 June 1990.

³ First published as Sheard, A.G. (1989), *Aerodynamic and Mechanical Performance of a High-Pressure Turbine Stage in a Transient Wind Tunnel*. DPhil Thesis, Oxford University, Oxford Research Archive (ORA), <http://ora.ouls.ox.ac.uk/objects/uuid:73ecb15e-cfde-474d-ac30-3f8f7e1d6f4e>

RESEARCH STREAM TWO

TURBOMACHINERY INSTRUMENTATION

Refereed journal articles

1. Sheard, A.G., Westerman, G.C., Killeen, B. & Fitzpatrick, M. (1994), 'A High-Speed Capacitance-Based System for Gauging Turbomachinery Blading Radius During the Tip-Grind Process'⁴. *Transactions of the ASME, Journal of Engineering for Gas Turbines & Power*, vol. 116, pp 243–9.
2. Sheard, A.G. & Killeen, B. (1995), 'A Blade-by-Blade Tip-Clearance Measurement System for Gas Turbine Applications'⁵. *Transactions of the ASME, Journal of Engineering for Gas Turbines & Power*, vol. 117, pp 326–31.
3. Muller, D., Sheard, A.G., Mozumdar, S. & Johann, E. (1997), 'Capacitive Measurement of Compressor and Turbine Blade Tip-to-Casing Running Clearance'⁶. *Transactions of the ASME, Journal of Engineering for Gas Turbines & Power*, vol. 119, pp 877–84.⁷
4. Sheard, A.G., O'Donnell, S.G. & Stringfellow, J.F. (1999), 'High Temperature Proximity Measurement in Aero and Industrial Turbomachinery'⁸. *Transactions of the ASME, Journal of Engineering for Gas Turbines & Power*, vol. 121, pp 167–73.
5. Sheard, A.G. (2011), 'Blade-by-Blade Tip-Clearance Measurement'. *International Journal of Rotating Machinery*, vol. 2011, Article ID 516128, pp 1–13.

Registered patents

6. Sheard, A.G. & Lawrence, D.C. (1998), 'Gap Measurement Device'. Patent No. US 5,760, 593, 2 June.
7. Sheard, A.G. (2000), 'Capacitive Gap Measurement Device'. Patent No. GB 2 325 305 B, 19 April.

Book

8. Sheard, A.G. (Ed.) (2012), *Tip Clearance Measurement in Aero and Industrial Turbomachinery*. Sigel Press, Cambridge, UK.

Book chapters

9. Sheard, A.G. & Turner, S.R. (2012), 'An Electromechanical Measurement System for the Study of Blade Tip-to-Casing Running Clearances'⁹. In Sheard, A.G. (Ed.), *Tip Clearance Measurement in Aero and Industrial Turbomachinery*. Sigel Press, Cambridge, UK.
10. Sheard, A.G. (2012), 'Blade-by-Blade Tip-Clearance Measurement'¹⁰. In Sheard, A.G. (Ed.), *Tip Clearance Measurement in Aero and Industrial Turbomachinery*. Sigel Press, Cambridge, UK.

⁴ First published as Paper No. 92-GT-365 in *Proceedings of the 37th American Society of Mechanical Engineers Gas Turbine and Aeroengine Congress*. Cologne, Germany, 1–4 June 1992.

⁵ First published as Paper No. 94-GT-40 in *Proceedings of the 39th American Society of Mechanical Engineers Gas Turbine and Aeroengine Congress*. The Hague, Netherlands, 13–16 June 1994.

⁶ First published as Paper No. 96-GT-349 in *Proceedings of the 41st American Society of Mechanical Engineers Gas Turbine and Aeroengine Congress*. Birmingham, UK, 10–13 June 1996.

⁷ Winner of the 41st American Society of Mechanical Engineers Gas Turbine and Aeroengine Congress Controls Diagnostics and Instrumentation Technical Committee best paper award, 1997.

⁸ First published as Paper No. 97-GT-198 in *Proceedings of the 42nd American Society of Mechanical Engineers Gas Turbine and Aeroengine Congress*. Orlando, Florida, USA, 2–5 June 1997.

⁹ First published as Paper No. 92-GT-50 in *Proceedings of the 37th American Society of Mechanical Engineers Gas Turbine and Aeroengine Congress*. Cologne, Germany, 1–4 June 1992.

¹⁰ First published in *International Journal of Rotating Machinery*, vol., 2012.

11. Sheard, A.G., Westerman, G.C. & Killeen, B. (2012), 'An On-Line Calibration Technique for Improved Blade-by-Blade Tip-Clearance Measurement'¹¹. In Sheard, A.G. (Ed.), *Tip Clearance Measurement in Aero and Industrial Turbomachinery*. Sigel Press, Cambridge, UK.
12. Sheard, A.G., Westerman, G.C., Killeen, B. & Fitzpatrick, M. (2012), 'A High-Speed Capacitance-Based System for Gauging Turbomachinery Blading Radius During the Tip-Grind Process'¹². In Sheard, A.G. (Ed.), *Tip Clearance Measurement in Aero and Industrial Turbomachinery*. Sigel Press, Cambridge, UK.
13. Sheard, A.G. & Killeen, B. (2012), 'A Blade-by-Blade Tip-Clearance Measurement System for Gas Turbine Applications'¹³. In Sheard, A.G. (Ed.), *Tip Clearance Measurement in Aero and Industrial Turbomachinery*. Sigel Press, Cambridge, UK.
14. Muller, D., Sheard, A.G., Mozumdar, S. & Johann, E. (2012), 'Capacitive Measurement of Compressor and Turbine Blade Tip-to-Casing Running Clearance'¹⁴. In Sheard, A.G. (Ed.), *Tip Clearance Measurement in Aero and Industrial Turbomachinery*. Sigel Press, Cambridge, UK.
15. Gill, S.J., Ingallinera, M.D. & Sheard, A.G. (2012), 'Turbine Tip-Clearance Measurement System Evaluation in an Industrial Gas Turbine'¹⁵. In Sheard, A.G. (Ed.), *Tip Clearance Measurement in Aero and Industrial Turbomachinery*. Sigel Press, Cambridge, UK.
16. Sheard, A.G., O'Donnell, S.G. & Stringfellow, J.F. (2012), 'High Temperature Proximity Measurement in Aero and Industrial Turbomachinery'¹⁶. In Sheard, A.G. (Ed.), *Tip Clearance Measurement in Aero and Industrial Turbomachinery*. Sigel Press, Cambridge, UK.
17. Sheard, A.G. & Lawrence, D.C. (2012), 'Gap Measurement Device'¹⁷. In Sheard, A.G. (Ed.), *Tip Clearance Measurement in Aero and Industrial Turbomachinery*. Sigel Press, Cambridge, UK.
18. Sheard, A.G. (2012), 'Capacitive Gap Measurement Device'¹⁸. In Sheard, A.G. (Ed.), *Tip Clearance Measurement in Aero and Industrial Turbomachinery*. Sigel Press, Cambridge, UK.

Conference proceedings publications

19. Killeen, B., Sheard, A.G. & Westerman, G.C. (1991), 'Blade-by-Blade Tip-Clearance Measurement in Aero and Industrial Turbomachinery'. *Proceedings of the 37th ISA International Instrumentation Symposium*. San Diego, California, USA, 5–9 May, pp 429–47.¹⁹
20. Sheard, A.G., Westerman, G.C. & Killeen, B. (1992), 'An On-Line Calibration Technique for Improved Blade-by-Blade Tip-Clearance Measurement'. *Proceedings of the 38th ISA International Instrumentation Symposium*. Las Vegas, Nevada, USA, 26–30 April, pp 32–51.
21. Sheard, A.G. & Turner, S.R. (1992), 'An Electromechanical Measurement System for the Study of Blade Tip-to-Casing Running Clearances'. *Proceedings of the 37th American Society of Mechanical Engineers Gas Turbine and Aeroengine Congress*. Cologne, Germany, 1–4 June, Paper No. 92-GT-50.
22. Sheard, A.G., Westerman, G.C., Killeen, B. & Fitzpatrick, M. (1992), 'A High-Speed Capacitance-Based System for Gauging Turbomachinery Blading Radius During the Tip-Grind Process'. *Proceedings of*

¹¹ First published in *Proceedings of the 38th ISA International Instrumentation Symposium*. Las Vegas, Nevada, USA, 26–30 April 1992.

¹² First published as Paper No. 92-GT-365 in *Proceedings of the 37th American Society of Mechanical Engineers Gas Turbine and Aeroengine Congress*. Cologne, Germany, 1–4 June 1992.

¹³ First published as Paper No. 94-GT-40 in *Proceedings of the 39th American Society of Mechanical Engineers Gas Turbine and Aeroengine Congress*. The Hague, Netherlands, 13–16 June 1994.

¹⁴ First published as Paper No. 96-GT-349 in *Proceedings of the 41st American Society of Mechanical Engineers Gas Turbine and Aeroengine Congress*. Birmingham, UK, 10–13 June 1996.

¹⁵ First published as Paper No. 97-GT-466 in *Proceedings of the 42nd American Society of Mechanical Engineers Gas Turbine and Aeroengine Congress*. Orlando, Florida, USA, 2–5 June 1997.

¹⁶ First published as Paper No. 97-GT-198 in *Proceedings of the 42nd American Society of Mechanical Engineers Gas Turbine and Aeroengine Congress*. Orlando, Florida, USA, 2–5 June 1997.

¹⁷ First published as Patent No. US 5 760 593, 2 June 1998.

¹⁸ First published as Patent No. GB 2 325 305 B, 19 April 2000.

¹⁹ Winner of the 37th ISA International Instrumentation Symposium best paper award, 1992.

- the 37th American Society of Mechanical Engineers Gas Turbine and Aeroengine Congress*. Cologne, Germany, 1–4 June, Paper No. 92-GT-365.
23. Sheard, A.G., Killeen, B. & Palmer, A. (1993), 'A Miniature Traverse Actuator for Mapping the Flow Field between Gas Turbine Blade Rows'. *Proceedings of the IMechE: Machine Actuators & Controls Seminar*. London, UK, 31 March, pp 1–11.
 24. Sheard, A.G. & Killeen, B.A. (1993), 'Hybrid System for High-Temperature Tip-Clearance Measurement'. *Proceedings of the 39th ISA International Instrumentation Symposium*. Albuquerque, New Mexico, USA, 2–6 May, pp 379–94.
 25. Sheard, A.G. (1993), 'A System for Measuring Blade and Stator Radius during Compressor Build and Overhaul'. *Proceedings of the 9th International Turbomachinery Maintenance Congress*. Amsterdam, Netherlands, 18–22 October, pp 1–12.
 26. Sheard, A.G. & Killeen, B.A. (1994), 'A Blade-by-Blade Tip-Clearance Measurement System for Gas Turbine Applications'. *Proceedings of the 39th American Society of Mechanical Engineers Gas Turbine and Aeroengine Congress*. The Hague, Netherlands, 13–16 June, Paper No. 94-GT-40.
 27. Muller, D., Sheard, A.G., Mozumdar, S. & Johann, E. (1996), 'Capacitive Measurement of Compressor and Turbine Blade Tip-to-Casing Running Clearance'. *Proceedings of the 41st American Society of Mechanical Engineers Gas Turbine and Aeroengine Congress*. Birmingham, UK, 10–13 June, Paper No. 96-GT-349.
 28. Gill, S.J., Ingallinera, M.D. & Sheard, A.G. (1997), 'Turbine Tip-Clearance Measurement System Evaluation in an Industrial Gas Turbine'. *Proceedings of the 42nd American Society of Mechanical Engineers Gas Turbine and Aeroengine Congress*. Orlando, Florida, USA, 2–5 June, Paper No. 97-GT-466.
 29. Sheard, A.G., O'Donnell, S.G. & Stringfellow, J.F. (1997), 'High-Temperature Proximity Measurement in Aero and Industrial Turbomachinery'. *Proceedings of the 42nd American Society of Mechanical Engineers Gas Turbine and Aeroengine Congress*. Orlando, Florida, USA, 2–5 June, Paper No. 97-GT-198.

Practitioners' journal article

30. Sheard, A.G. (1993), 'LabVIEW Fulfils GUI Demands for New Gas Turbine System'. *Instrumentation Newsletter*, vol. 5, no. 3, p 11.

Papers presented at international conferences

31. Sheard, A.G. (2004), 'Parametric Study of Tip-Clearance Casing Treatment on Performance and Stability of a Transonic Axial-Flow Compressor'. *49th American Society of Mechanical Engineers Gas Turbine and Aeroengine Congress*. Vienna, Austria, 14–17 June.
32. Sheard, A.G. (2008), 'Turbomachinery Instrumentation: How Does It Work and What are My Options?'. *53rd American Society of Mechanical Engineers Gas Turbine and Aeroengine Congress*. Berlin, Germany, 9–13 June.

RESEARCH STREAM THREE

INDUSTRIAL TURBOMACHINERY DESIGN

Refereed journal articles

1. Trigg, M.A., Tubby, G.R. & Sheard, A.G. (1999), 'Automatic Genetic Optimisation Approach to 2D Blade-Profile Design for Steam Turbines'²⁰. *Transactions of the ASME, Journal of Turbomachinery*, vol. 121, pp 11–17.
2. Cole, D., Martin-Moran, C., Sheard, A.G., Bhadeshia, H.K.D.H. & MacKay, D.J.C. (2000), 'Modelling Creep Rupture Strength of Ferritic Steel Welds'. *Science and Technology of Welding & Joining*, vol. 5, pp 81–9.

Conference proceedings publications

3. Trigg, M.A., Tubby, G.R. & Sheard, A.G. (1997), 'Automatic Genetic Optimisation Approach to 2D Blade-Profile Design for Steam Turbines'. *Proceedings of the 42nd American Society of Mechanical Engineers Gas Turbine and Aeroengine Congress*. Orlando, Florida, USA, 2–5 June, Paper No. 97-GT-392.
4. Mason, R.N. & Sheard, A.G. (1997), 'The Application of Steam Turbine Plant in Modern Waste to Energy Facilities'. *Proceedings of the IMechE Engineering for Profit from Waste V Conference*. London, UK, 11–12 November, pp 39–53.
5. Shrimpton, K.F. & Sheard, A.G. (1998), 'A Grid Disconnection Relay for Small Power Producers'. *Proceedings of the IMechE Steam Turbine Governing and Overspeed Protection Seminar*. London, UK, 28 May, S548, pp 59–68.
6. Sheard, A.G. & Raine, M.J. (1998), 'The Combined Cycle Application of Aeroderivative Gas Turbines'. *Proceedings (Vol. 1) of the ASME International Joint Power Generation Conference*. Baltimore, Maryland, USA, 23–29 August, pp 701–12.
7. Sarin, D.A., Majamaki, O.A., Kuokkanen, J.K. & Sheard, A.G. (2004), 'Centrifugal Compressor Redesign Utilising Carbon Fibre Composite Impellers'. *Proceedings of the IMechE Advanced Materials for Fluid Machinery Seminar*. London, UK, 26 February, pp 67–81.
8. Lotfi, O., Teixeira, J.A., Ivey, P.C., Sheard, A.G. & Kinghorn, I.R. (2005), 'Aerodynamic Optimisation of Industrial Fan-Blade Cascades'. *Proceedings of the 50th American Society of Mechanical Engineers Gas Turbine and Aeroengine Congress*. Reno, Nevada, USA, 6–9 June, Paper No. GT2005-68385.
9. Lotfi, O., Teixeira, J.A., Ivey, P.C., Sheard, A.G. & Kinghorn, I.R. (2006), 'Shape Optimisation of Axial Fan Blades Using Genetic Algorithms and a 3D Navier-Stokes Solver'. *Proceedings of the 51st American Society of Mechanical Engineers Gas Turbine and Aeroengine Congress*. Barcelona, Spain, 8–11 May, Paper No. GT2006-90659.

Paper presented at international conference

10. Sheard, A.G. (2004), 'Keynote Presentation: Fans – Just How Mature Are They?'²¹. *IMechE International Conference on Fans*. London, UK, 9–10 November.

²⁰ First published as Paper No. 97-GT-392 in *Proceedings of the 42nd American Society of Mechanical Engineers Gas Turbine and Aeroengine Congress*. Orlando, Florida, USA, 2–5 June 1997.

²¹ Conference key note presentation was to be given by W.H. Cory; however, due to the untimely death of his wife, I was asked to step in at short notice and give the conference key note presentation.

RESEARCH STREAM FOUR

INDUSTRY REGULATION

Refereed journal article

1. Sheard, A.G. & Jones, N.M. (2012), 'Powered Smoke & Heat Exhaust Ventilators: The Impact of EN 12101-3 & ISO 21927-3'. *Tunnelling and Underground Space Technology*, vol. 28, pp 174–82.

Book chapters

2. Sheard, A.G. & Jones, N.M. (2011), 'The Development of a Fan Range to Meet Increasingly Demanding Safety Criteria Inside Tunnels'²². In Sheard, A.G. (Ed.), *Advances in Industrial Fan Technology*. Sigel Press, Cambridge, UK.
3. Sheard, A.G. & Jones, N.M. (2011), 'Increasingly Demanding Criteria for Vehicle Tunnel Ventilation: A Fan Manufacturers Perspective'²³. In Sheard, A.G. (Ed.), *Advances in Industrial Fan Technology*. Sigel Press, Cambridge, UK.

Conference proceedings publications

4. Sheard, A.G. & Jones, N.M. (2005), 'Emergency Ventilation for Vehicular, Rail and Metro Tunnels'. *Proceedings of the International Congress: Safety Innovation Criteria Inside Tunnels*. Gijon, Spain, 29 June–1 July, pp 303–12.
5. Sheard, A.G. & Jones, N.M. (2006), 'High-Temperature Certification of Large Fans for Emergency Ventilation'. *Proceedings of the 12th International Symposium on Aerodynamics and Ventilation of Vehicle Tunnels*. Portoroz, Slovenia, 11–13 July, pp 123–40.
6. Sheard, A.G. & Jones, N.M. (2008), 'Approval of High-Temperature Emergency Tunnel-Ventilation Fans: The Impact of ISO 21927-3'. *Proceedings of the ITA–AITES World Tunnel Congress and 34th General Assembly*. Agra, India, 19–25 September, pp 1817–26.
7. Sheard, A.G. & Jones, N.M. (2011), 'The Development of a Fan Range to Meet Increasingly Demanding Safety Criteria Inside Tunnels'. *Proceedings of the 14th Australasian Tunnelling Conference: Development of Underground Space*. Sky City, Auckland, New Zealand, 8–9 March, pp 305–18.
8. Sheard, A.G. & Jones, N.M. (2011), 'Increasingly Demanding Criteria for Vehicle Tunnel Ventilation: A Fan Manufacturers Perspective'. *Proceedings of the 14th International Symposium on Aerodynamic and Ventilation of Vehicle Tunnels*. Dundee, UK, 11–13 May, pp 61–76.
9. Sheard, A.G. & Jones, N.M. (2012), 'An Initial Assessment of the Changes That Will Appear in a Forthcoming (2012) Revision of EN 12101-3'. *Proceedings of the Fan 2012 Conference*. Senlis, France, 18–20 April.

²² First published in *Proceedings of the 14th Australasian Tunneling Conference: Development of Underground Space*. Sky City, Auckland, New Zealand, 8–9 March 2011.

²³ First published in *Proceedings of the 14th International Symposium on Aerodynamic and Ventilation of Vehicle Tunnels*. Dundee, UK, 11–13 May 2011.

Practitioners' journal articles

10. Sheard, A.G. (2005), 'Change is in the Air'. *Tunnels & Tunnelling International*, November, pp 47–49.
11. Sheard, A.G. (2008), 'Approval of High-Temperature Emergency Tunnel-Ventilation Fans: The Impact of ISO 21927-3'. *Rail Technology Magazine*, June/July, p 63.
12. Sheard, A.G. (2012), 'Air Movement Gets European Representation'. *Federation of Environmental Trade Associations Magazine*, December, p 14.
13. Sheard, A.G. (2014), 'The Impact of EU Regulation 327'. *Federation of Environmental Trade Associations Magazine*, January, p 8.
14. Sheard, A.G. (2014), 'European Fan Regulation: Harmonization and Surveillance are Key Topics', *AMCA inmotion*, Summer, pp 32-33.
15. Sheard, A.G. (2014), 'Dealing with the Impact of Fan Efficiency Both within Europe and Globally'. *Federation of Environmental Trade Associations Magazine*, December, pp 16-17.
16. Sheard, A.G. (2021), 'Design of Parking-Garage Ventilation for Pollutant and Smoke Control', *AMCA inmotion*, pp 32-33.

Papers presented at international conferences

17. Sheard, A.G. (2006), 'European High Temperature Certification of Fans for Tunnel Ventilation Applications'. *American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE) Annual Meeting*. Quebec City, Canada, 24–28 June.
18. Sheard, A.G. (2010), 'Latest Trend for Tunnel Ventilation Installations and Equipment'. *Tunnel Design & Construction Northeast Asia Conference*. Hong Kong, 24–25 November.
19. Sheard, A.G. (2022), 'Parking Structure Ventilation & Jet Fan Design', *2022 NFPA Conference & Expo*. Boston, USA, 6-9 June.

RESEARCH STREAM FIVE

LEADERSHIP DEVELOPMENT

Refereed journal articles

1. Sheard, A.G. & Kakabadse, A.P. (2002), 'From Loose Groups to Effective Teams: The Nine Key Factors of the Team Landscape'. *Journal of Management Development*, vol. 21, pp 133–51.²⁴
2. Sheard, A.G. & Kakabadse, A.P. (2002), 'Key Roles of the Leadership Landscape'. *Journal of Managerial Psychology*, vol. 17, pp 129–44.
3. Sheard, A.G. & Kakabadse, A.P. (2006), 'Mapping the Transitional Experience of Switching Leadership Roles'. *Leadership and Organization Development Journal*, vol. 27, pp 597–619.
4. Sheard, A.G. & Kakabadse, A.P. (2007), 'A Role-Based Perspective on Leadership as a Network of Relationships'. *Journal of Management Development*, vol. 26, pp 331–52.
5. Sheard, A.G., Kakabadse, A.P. & Kakabadse, N.K. (2009), 'Roles as a Mechanism for Rotating Leadership in a Group'. *Journal of Management Development*, vol. 28, pp 542–9.
6. Sheard, A.G., Kakabadse, A.P. & Kakabadse, N.K. (2011), 'Organisational Politics: Reconciling Leadership's Rational – Emotional Paradox'²⁵. *Leadership & Organisational Development Journal*, vol. 32, pp 78–97.
7. Sheard, A.G., Kakabadse, A.P. & Kakabadse, N.K. (2011), 'Leadership Entrapment: The Other Side of Discretion'. *Problems and Perspectives in Management*, vol. 9, pp 89–100.
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²⁴ Syllabus reading (2003) for the 'ORBH 570: Learning and Development' at the Weatherhead School of Management, *Department of Organizational Behaviour*, Case Western Reserve University, http://www.learningfromexperience.com/images/uploads/ORBH_570_Fall_2003.pdf (accessed 20 June 2006).

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23. Sheard, A.G., Kakabadse, A.P. & Kakabadse, N.K. (2008), 'An Examination of Leadership Development: A Role-Based Perspective'. *New Public Sector Reform and its Managerial Challenges*. Bradford, UK, 20 February.

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24. Sheard, A.G. (2009), 'Book Review: *How Managers Learn to Lead*' by Kempster, S., Palgrave Macmillan, London, UK. *Journal of Management Development*, vol. 28, pp 647–9.

²⁶ The *Journal of Management Development*'s 2004 most downloaded publication, and also the all-time most downloaded monograph with approximately 10,000 downloads as of November 2009.

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²⁹ Review of Leadership Teams in CEO Forum Group, June 2010, <http://www.ceoforum.com.au/article-detail.cfm?cid=10792&t=/Leadership-teams/>

RESEARCH STREAM SIX

PASSIVE NOISE CONTROL

Refereed journal articles

1. Corsini, A., Rispoli, F. & Sheard, A.G. (2007), 'Development of Improved Blade-Tip End-Plate Concepts for Low-Noise Operation in Industrial Fans'³⁰. *Proceedings of the IMechE Part A, Journal of Power and Energy*, vol. 221, pp 669–81.
2. Corsini, A. & Sheard, A.G. (2007), 'Tip End-Plate Concept Based on Leakage Vortex Rotation Number Control'. *Journal of Computational and Applied Mechanics*, vol. 8, pp 21–37.
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³² First published in *Proceedings of the 3rd International Symposium of Fan Noise*. Lyon, France, 17–19 September 2007.

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⁴¹ First published in *Proceedings of the 9th European Conference on Turbomachinery, Fluid Dynamics & Thermodynamics*. Istanbul, Turkey, 21–25 March 2011.

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35. Corsini, A., Rispoli, F., Sheard, A.G. & Kinghorn, I.R. (2004), 'The Aerodynamic Interaction of Tip Leakage and Mainstream Flows in a Fully Ducted Axial Fan'. *Proceedings of the 49th American Society of Mechanical Engineers Gas Turbine and Aeroengine Congress*. Vienna, Austria, 14–17 June, Paper No. GT2004-53408.
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39. Corsini, A., Perugini, B., Rispoli, F., Sheard, A.G. & Kinghorn, I.R. (2007), 'Experimental and Numerical Investigations of Passive Device for Tip-Clearance Induced Noise Reduction in Axial-Flow Fans'. *Proceedings of the 7th European Conference on Turbomachinery, Fluid Dynamics and Thermodynamics*. Athens, Greece, 5–9 March, pp 45–57.
40. Corsini, A., Perugini, B., Rispoli, F., Sheard, A.G. & Kinghorn, I.R. (2007), 'Aerodynamic Workings of Blade-Tip End-Plates Designed for Low-Noise Operation in Axial-Flow Fans'. *Proceedings of the 52nd American Society of Mechanical Engineers Gas Turbine and Aeroengine Congress*. Montreal, Canada, 14–17 May, Paper No. GT2007-27465.
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42. Bianchi, S., Corsini, A., Rispoli, F. & Sheard, A.G. (2008), 'Experimental Aeroacoustic Studies on Improved Tip Geometries for Passive Noise-Signature Control in Low-Speed Axial Fans'. *Proceedings of the 53rd American Society of Mechanical Engineers Gas Turbine and Aeroengine Congress*. Berlin, Germany, 9–13 June, Paper No. GT2008-51057.
43. Corsini, A., Rispoli, F. & Sheard, A.G. (2008), 'Shaping of Tip End-Plate to Control Leakage-Vortex Swirl in Axial-Flow Fans'. *Proceedings of the 53rd American Society of Mechanical Engineers Gas Turbine and Aeroengine Congress*. Berlin, Germany, 9–13 June, Paper No. GT2008-51062.
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51. Bianchi, S., Corsini, A., Rispoli, F. & Sheard, A.G. (2008), 'Experimental Investigation of the Near-Field Aero-Acoustic Noise Sources of a Low-Speed Axial Fan'. *XIX Biannual Symposium on Measuring Techniques in Turbomachinery*. Saint Genesius Rode, Belgium, 7–8 April.
52. Bianchi, S., Corsini, A., Rispoli, F. & Sheard, A.G. (2008), 'Near-Field Aeroacoustic Investigations of Axial Fan with Tip End-Plates'. *37th International Congress and Exhibition on Noise Control Engineering*. Shanghai, China, 26–29 October.
53. Bianchi, S., Corsini, A. & Sheard, A.G. (2008), 'Development of Tip-Leakage Passive-Control Devices for Axial-Flow Fans'. *The Institution of Mechanical Engineers International Symposium on Fans*. London, UK, 5–6 November.
54. Bianchi, S., Corsini, A. & Sheard, A.G. (2012), 'The Use of Causality Method for Detecting the Noise Sources in Isolated Turbomachinery Airfoils and Cascade'. *XXI Biennial Symposium on Measurement Techniques in Turbomachinery, Transonic and Supersonic Flows in Cascades and Turbomachines*. Valencia, Spain, 22–23 March.

RESEARCH STREAM SEVEN

STALL DETECTION AND CONTROL

Refereed journal articles

1. Sheard, A.G., Corsini, A. & Bianchi, S. (2011), 'Stall Warning in a Low-Speed Axial Fan by Visualisation of Sound Signals'⁵⁵. *Transactions of the ASME, Journal of Engineering for Gas Turbines & Power*, vol. 133, Paper No. 041601, pp 1–10.
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3. Sheard, A.G. & Corsini, A. (2012), 'The Mechanical Impact of Aerodynamic Stall on Tunnel Ventilation Fans'. *International Journal of Rotating Machinery*, vol. 2012, Paper No. 402763, pp 1–12.
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7. Corsini, A., Delibra, G. & Sheard, A.G. (2013), 'On the Role of Leading-Edge Bumps in the Control of Stall Onset in Axial Fan Blades'. *Transactions of the ASME, Journal of Fluids Engineering*, vol. 135, Paper No. 081104, pp 1–9.
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