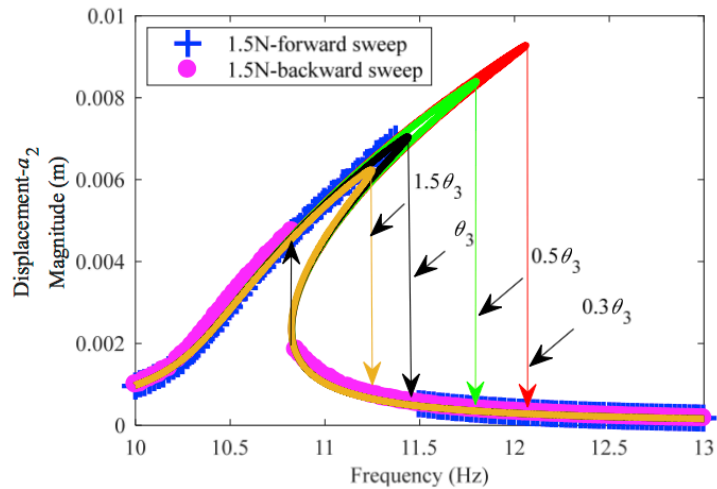




Professor Michael I. Friswell



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See:

<http://www.bristol.ac.uk/engineering/people/michael-i-friswell/index.html>

<http://www.swansea.ac.uk/staff/engineering/m.i.friswell/>

<https://scholar.google.com/citations?user=sabi2pAAAAAJ>

https://www.researchgate.net/profile/Michael_Friswell

College of Engineering,

Swansea University, Bay Campus, UK

Also: Department of Aerospace Engineering, University of Bristol, UK

Education:

1982 BA Mathematics, Merton College, Oxford University

1987 MA Mathematics, Merton College, Oxford University

1991 PhD Mechanical Engineering, Aston University

1999 DSc Mechanical Engineering, University of Wales

Research Interests:

Structural dynamics; Morphing aircraft; Improvement of finite element models using measured data; Identification of damage location and extent using model based algorithms; Rotating machinery dynamics; Model reduction methods; Modelling and analysis of structures with viscoelastic damping; Dynamics of non-linear systems; Acoustic emission; Active vibration control

Career:

Sept 1982 - Sept 1987 Scientific Officer/Higher Scientific Officer, Admiralty Research Establishment, Portland

Sept 1987 - Aug 1993 Lecturer, Department of Mechanical and Electrical Engineering, Aston University, Birmingham

Sept 1993 - Oct 1995 Lecturer, Department of Mechanical Engineering, University of Wales Swansea

Oct 1995 - Sept 1998 Senior Lecturer, Department of Mechanical Engineering, University of Wales Swansea

Sept 1998 - Sept 2000 Reader, Department of Mechanical Engineering, University of Wales Swansea
Oct 2000 - Sept 2002 Personal Chair in Mechanical Engineering, Department of Mechanical Engineering, University of Wales Swansea
Sept 2002 - Dec 2008 Sir George White Professor of Aerospace Engineering, Department of Aerospace Engineering, University of Bristol
From Jan 2009 Professor of Aerospace Structures, School of Engineering, Swansea University

Honors and Awards:

2011 Honorary Professor, [Nanjing University of Aeronautics and Astronautics, China](#)
2014 ASME Adaptive Structures and Materials Systems Prize
2014 Royal Aeronautical Society Specialist Bronze Award

Selected Publications:

Book:

MI Friswell & JE Mottershead, Finite Element Model Updating in Structural Dynamics, Kluwer Academic Publishers, 1995, 286 pp., ISBN 0-7923-3431-0.

Journal Articles, etc.:

X Wang, TL Hill, SA Neild, AD Shaw, H Haddad Khodaparast & MI Friswell, Model Updating Strategy for Structures with Localised Nonlinearities using Frequency Response Measurements. *Mechanical Systems and Signal Processing*, 100, 1 February 2018, 940-961.

X Wang, H Haddad Khodaparast, AD Shaw, MI Friswell & G Zheng, Localization of Local Nonlinearities in Structural Dynamics using Spatially Incomplete Measured Data. *Mechanical Systems and Signal Processing*, 99, 15 January 2018, 364-383.

Chen Wang, Hamed Haddad Khodaparast, Michael Ian Friswell and Alexander David Shaw, "An equivalent model of corrugated panels with axial and bending coupling", *Computers & Structures*, Vol. 183, pp 61-72, April 2017

E. García-Macías, R. Castro-Triguero, E.I.S. Flores, M.I. Friswell, R. Gallego, Static and free vibration analysis of functionally graded carbon nanotube reinforced skew plates, *Compos Struct*, 140 (2016), pp. 473–490

I. Dayyani, A.D. Shaw, E.I. Saavedra Flores and M.I. Friswell, "The mechanics of composite corrugated structures: A review with applications in morphing aircraft", *Composite Structures*, Vol. 133, pp 358-380, December 2015

A.D. Shaw, I. Dayyani and M.I. Friswell, "Optimization of composite corrugated skins for buckling in morphing aircraft", *Composite Structures*, Vol. 119, pp 227-237, January 2015

Iman Dayyani, Michael I. Friswell and Erick I. Saavedra Flores, "A general super element for a curved beam", *International Journal of Solids and Structures*, Vol. 51, No. 17, pp 2931-2939, August 2014

Lei, Y., Adhikari, S., Murmu, T., Friswell, M.I.: Asymptotic frequencies of various damped nonlocal beams and plates. *Mech. Res. Commun.* 62, 94–101 (2014)

Barbarino S, Flores E I S, Ajaj R M, Dayyani I and Friswell M I 2014 A review on shape memory alloys with applications to morphing aircraft *Smart Mater. Struct.* 23 063001

Lei, Y., Murmu, T., Adhikari, S., Friswell, M.I.: Dynamic characteristics of damped viscoelastic nonlocal Euler–Bernoulli beams. *Eur. J. Mech. A/Solids* 42, 125–136 (2013)

Lei, Y., Adhikari, S., Friswell, M.I.: Vibration of nonlocal Kelvin–Voigt viscoelastic damped Timoshenko beams. *Int. J. Eng. Sci.* 66–67, 1–13 (2013)

O. Bilgen, A.F. Arrieta, M.I. Friswell, P. Hagedorn, "Dynamic control of a bistable wing under aerodynamic loading", *Smart Material and Structures*, 22 (2) (2013), p. 025020

Andres F. Arrieta, Onur Bilgen, Michael I. Friswell and Paolo Ermanni, "Modelling and configuration control

of wing-shaped bi-stable piezoelectric composites under aerodynamic loads”, *Aerospace Science and Technology*, Vol. 29, No. 1, pp 453-461, August 2013

Xia, Y., Friswell, M. I., and Flores, E. I. (2012). Equivalent models of corrugated panels. *International Journal of Solids and Structures*, 49(13):1453–1462.

Arrieta A F, Bilgen O, Friswell M I and Hagedorn P 2012 Dynamic control for morphing of bi-stable composites *J. Intell. Mater. Syst. Struct.* 24 266–273

E.I. Saavedra Flores E.I., Adhikari, S., Friswell, M.I. and Scarpa, F., “Hyperelastic axial buckling of single wall carbon nanotubes”, *Physica E, Bol.* 44, pp 525-529, 2011

Saavedra Flores E.I., Adhikari, S., Friswell, M.I. and Scarpa, F., “Hyperelastic modelling of post-buckling response in single wall carbon nanotubes under axial compression”, *Procedia Engineering*, Vol. 10, pp 2256-2261, 2011 (ICM11)

Barbarino, S., Bilgen, O., Ajaj, R.M., Friswell, M.I., Inman, D.J.: A review of morphing aircraft. *J. Intell. Mater. Syst. Struct.* 22(9), 823–877 (2011)

M.I. Friswell, “The prospects for morphing aircraft”, IV ECCOMAS Thematic Conference on Smart Structures and Materials, (publisher and year not given in the pdf file; most recent reference is 2009)

F. Mattioni, P. Weaver, M. Friswell, “Multistable composite plates with piecewise variation of lay-up in the planform”, *International Journal of Solids and Structures*, 46 (1) (2009), pp. 151-164

Carrella, A., Friswell, M.I., Pirrera, A., Aglietti, G.S., 2008. Numerical and experimental analysis of a square bistable plate. In: *Proceedings of Isma 2008: International Conference on Noise And Vibration Engineering*, vols. 1–8. Katholieke Univ Leuven, Dept. Werktuigkunde, Heverlee, pp. 3433–3440.

Mattioni, F., Weaver, P.M., Potter, K.D., Friswell, M.I. 2008a. Analysis of thermally induced multistable composites. *International Journal of Solids and Structures* 45(2): 657-675.

Mattioni, F., Weaver, P.M., Potter, K.D., Friswell, M.I. 2008b. The application of thermally-induced multistable composites to morphing aircraft structures. *SPIE Smart Structures and Materials & Nondestructive Evaluation and Health Monitoring*, San Diego, California, USA, paper 6930-38.

Herencia J E, Haftka R T, Weaver P M and Friswell M I. Lay-up optimisation of composite stiffened panels using linear approximations in lamination space. *AIAA Journal*, Vol. 46, No. 9, pp 2387-2391, 2008

J. Enrique Herencia, Paul M. Weaver and Michael I. Friswell, “Optimization of anisotropic composite panels with T-shaped stiffeners including transverse shear effects and out-of-plane loading”, *Structural and Multidisciplinary Optimization*, Vol. 37, No. 2, pp 165-184, December 2008

Herencia, J. E., Weaver, P. M., and Friswell, M. I., “Optimization of Long Anisotropic Laminated Fiber Composite Panels with T-Shaped Stiffeners,” *AIAA Journal*, Vol. 45, No. 10, 2007, pp. 2497–2509

Mattioni, F., Weaver, P.M., Friswell, M.I., Potter, K.D. 2007. Modelling and applications of thermally induced multistable composites with piecewise variation of lay-up in the planform. 48th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference, Waikiki, Hawaii, paper AIAA-2007-2262.

Herencia, J.E., Weaver, P.M. and Friswell, M.I., “Morphing wing design via aeroelastic tailoring,” 48th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference, Waikiki, Hawaii, 23-26 April 2007, paper AIAA-2007-2217 (2007).

Friswell, M.I., Adhikari, S., Lei, Y.: Vibration analysis of beams with non-local foundations using the finite element method. *Int. J. Numer. Methods Eng.* 71(11), 1365–1386 (2007)

Friswell, M.I., Adhikari, S., Lei, Y.: Non-local finite element analysis of damped beams. *Int. J. Solids Struct.* 44, 7564–7576 (2007)

F. Mattioni, A. Gatto, P.M. Weaver, M.I. Friswell and K.D. Potter, “The application of residual stress tailoring of snap-through composites for variable sweep wings”, 47th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Confere, AIAA Paper No. 2006-1972 1 - 4 May 2006, Newport, Rhode Island

Filippo Mattioni, Paul M. Weaver, Kevin D. Potter, Michael I. Friswell, “Multi-stable composites application concept for morphing aircraft”, in Sixteenth International Conference on Adaptive Structures And Technologies, edited by Michel Bernadou, John Cagnol and Roger Ohayon (Sixteenth International Conference on Adaptive Structures and Technologies), 2006, DEStech Publications, ISBN 1-932078-57-6

Adhikari, S. and M. I. Friswell (2001). “Eigenderivative Analysis of Asymmetric Non-Conservative Systems”. *International Journal for Numerical Methods in Engineering* 51(6), pp. 709–733.

Friswell M.I., Inman D.J., Rietz W.R.: Active damping of thermally induced vibrations. *J. Intell. Mater. Syst. Struct.* 8, 678–685 (1997)