

PUBLICATIONS – D. Cebon (December 29, 2011)

Refereed Articles in Journals

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2. Cebon, D. ‘Theoretical road damage due to dynamic tyre forces of heavy vehicles: Part 1 Dynamic analysis of vehicles and road surfaces’ *Proc. I.Mech.E.*, Vol. 202, No. C2, 1988.
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5. Cebon, D. ‘Design of multiple-sensor weigh-in-motion systems’ *J. Automobile Engineering Proc. I.Mech.E.*, Vol 204, Part D, 1990.
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15. Hardy, MSA and Cebon, D. ‘Response of continuous pavements to moving dynamic loads’ *ASCE J. Eng. Mech.* Vol 119, No 9, pp1762–1780, Sept 1993.
16. Hardy, MSA and Cebon, D. ‘Influence of heavy vehicle suspensions on ABS performance’ *SAE Transactions 932990*, 1993.
17. Green, MF and Cebon, D. ‘Dynamic response of highway bridges to heavy vehicle loads: Theory and experimental validation’ *Journal of Sound and Vibration* Vol 170, No. 1, Feb 1994, pp 51-78.
18. Hardy MSA and Cebon D. ‘Importance of speed and frequency in flexible pavement response’ *ASCE J. Eng. Mech.* Vol 120, No 3, pp463–482, March 1994.
19. Besinger FH, Cebon, D and Cole DJ. ‘Damper models for heavy vehicle ride dynamics’ *Vehicle System Dynamics*, Vol 24, No 1, pp35–64, January 1995.
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28. Collop, AC, Cebon, D. 'Parametric study of factors affecting flexible pavement performance' *Journal of Transportation Engineering*, ASCE, Vol 121, No 6, pp485–494, 1995.
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Accepted for Publication

- 1 Costanzi, M. and Cebon, D. 'A Generalised Phenomenological Model For the Viscoelasticity of Bitumen' sub to ASCE J Engineering Mechanics, (in press)
- 2 Midgley, WJ. and Cebon, D. 'Comparison of Regenerative Braking Technologies for Heavy Vehicles'. IMechE J Auto Eng, 2011 (in press).
- 3 Miller, JI, and Cebon, D. 'Modelling and performance of a pneumatic brake actuator' Proc IMechE, Part C, J. Mech. Eng. Sci, 2011 (in press).

Journal Articles Submitted

1. Jeppesen, BP and Cebon, D. 'Specification and design of fault detection schemes, with application to active vehicle suspension' sub to IMechE Journal of Systems and Control Engineering, February, 2008.
2. Jujnovich, BA and Cebon, D. 'Path-following steering control for articulated vehicles'. Sub to ASME Journal of Dynamic Systems Measurement and Control, August 2008.
3. Roebuck, RL, Odhams, AMC and Cebon, D. 'An Automatically-Reconfigurable Software-Based Safety System for Rear-Steering Multi-Unit Vehicles' sub to IEEE Transactions on Automatic Control, 2009.
4. Portillo, O, and Cebon, D. 'Fracture mechanics of idealized bituminous mixes' Sub to International Journal of Pavement Engineering (Special Issue), January 2011.
5. Portillo, O, and Cebon, D. 'Modelling Failure of Bitumen Films in Tension' Sub to ASCE Journal of Engineering Mechanics, January 2011.
6. Miller, JI, and Cebon, D. 'Sliding mode slip control for heavy vehicles with pneumatic brake actuators' Sub to VSD, July, 2011.
7. Cathcart, H. Midgley, W. Cebon, D. 'Modelling of Hydraulic Regenerative Braking Systems for Heavy Vehicles' Sub to Transportation Research Part D: Transport and Environment, December 2011.
8. Miller, JI, Flack, TJ and Cebon, D. 'Modelling the Magnetic Performance of a Fast Pneumatic Brake Actuator', sub to ASME J. Dyn Sys Meas Control, December 2011.
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12. Portillo O, Cebon D. 'Data management for fracture experiments', Submitted to Journal of Strain Analysis for Engineering Design , 24 December 2011.
13. Cheng, C, Odhams, AMC, Roebuck, RL, and Cebon, D, 'Feedback control of semitrailer steering at low speeds. Sub to IMechE J Auto Eng, December, 2011.

Books

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2. Cebon, D, and Mitchell, CGB, Editors 'Heavy Vehicles and Roads: Technology, Safety and Policy' Thomas Telford, London, 1992, ISBN 0-7277-1903-3.
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Book Chapters

1. Cebon, D. and Ashby, MF. 'Materials Engineering', Chapter in 'Information Sources in Engineering', 4th Edition, Ed Corlett, J. and Macleod, RA, KG Saur, 2005, ISBN 3-598-24442-8. *ASEE Engineering Libraries Division Best Reference Work Award, 2006.*
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3. Marsden, W, Cope, B and Cebon, D. 'Managing multi-scale material data for access within ICME environments', in 'Models, Databases and Simulation Tools Needed for the realization of Integrated Computational Materials Engineering', Ed Arnold, SM and Wong, TT, ASM International, 2011, 200pp, ISBN-13: 978-1-61503-726-1.
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Conference Papers

1. Cebon, D. and Newland, DE. 'The artificial generation of road surface topography by the inverse FFT method', Proc. 8th IAVSD Symposium on the dynamics of vehicles on roads and on railway tracks, Cambridge, MA, 1983, pp 29-42, Swets & Zeitlinger.
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3. Cebon, D. 'Road damaging effects of dynamic axle loads', Proc. Int. Symposium on heavy vehicles weights and dimensions, Kelowna, British Columbia, Canada, June 1986.

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8. Hardy, MSA. and Cebon, D. 'The response of a flexible pavement to moving dynamic loads'. Proc. Inst. Acoustics, Vol. 10, Part 2, 1988.
9. Cole, DJ. and Cebon, D. 'Simulation and measurement of vehicle response to road roughness'. Proc. Inst. Acoustics, Vol. 10, Part 2, 1988.
10. Newland, DE. and Cebon, D. 'Vehicle-generated vibrations in roads and their surroundings'. Proc. Inst. Acoustics, Vol. 10, Part 2, 1988.
11. Hardy, MSA. and Cebon, D. 'Measurement and analysis of the dynamic response of flexible pavements' Proc. 2nd Int. Symp. on Heavy Vehicle Weights and Dimensions, Kelowna, 1989.
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13. Cole, DJ. and Cebon, D. 'Assessing the road-damaging potential of heavy vehicles' IMechE Seminar on Road Wear, April 1991.
14. Besinger, FH, Cebon, D and Cole, DJ. 'Experimental investigation into the use of semi-active dampers on heavy lorries' Proc. 12th IAVSD symposium, Lyon 1991, Swets & Zeitlinger.
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Invited Lectures

- 1 Cebon, D. 'Assessment of the dynamic wheel forces generated by heavy road vehicles', ARRB/FORS symposium on heavy vehicle suspension characteristics, Canberra, 1987.
- 2 Cebon, D. 'Vehicle loads and pavement damage: Overview'. FHWA Workshop on Load Equivalence, Washington DC, September 1988.
- 3 Cebon, D. 'Vehicle-generated road damage: A review'. State of the art paper presented at 11th IAVSD Symposium, 1989.
- 4 Cebon, D. 'Interaction Between Heavy Vehicles and Roads' 1993. Society of Automotive Engineers, LR Buckendale Lecture.
- 5 Cebon, D. and Collop, AC. 'Exploding the myth of road-friendly suspensions', Presentation to IMechE Eastern Division, November, 1996.
- 6 Ashby, MF and Cebon, D. 'Materials selection for high temperature applications', MITS 2005 Seminar on Life Prediction of Structural Materials for Elevated Temperature Service', National Institute for Materials Science, Japan, March 2005.
- 7 Ashby, MF and Cebon, D. 'New approaches to materials education', MITS 2005 Symposium on Application of Materials Database for Education', National Institute for Materials Science, Japan, March 2005.
- 8 Cebon, D and Ashby, MF. 'Data Systems for Optimal Material Selection', MITS 2005 Symposium on Material Databases', National Institute for Materials Science, Japan, March 2005.
- 9 Cebon, D. 'Tyres, Suspensions and Road Damage'. Presented at 5th Congresso Brasileiro de Rodovias e Concessionarias', Campinas, Brazil, October 2007.
- 10 Cebon, D. 'Energy-efficient road transport' Cambridge University Horizon Seminar, October 2007.
- 11 Cebon, D. 'Seminar on Vehicle-Road Interaction Issues and Trends with Professor David Cebon, Cambridge University' KTH Division of Highway and Railway Engineering, Stockholm, Sweden September 17, 2008
- 12 Cebon, D. 'Modelling Asphalt Deformation' Simposio Colombiano sobre Ingeniería de Pavimentos, Universidad EAFIT, Medellín, 12 August 2009.
- 13 Cebon, D. 'Tyres, Suspension Design and Road Damage' Simposio Colombiano sobre Ingeniería de Pavimentos, Universidad EAFIT, Medellín, 12 August 2009.
- 14 Cebon, D 'Meeting the challenge: heavy vehicle options', Plenary presentation at HVTT 11, Melbourne, Australia, March 2010.
- 15 Cebon, D. 'Fuel Consumption of Heavy Goods Vehicles' The 7th Annual Fleet Management Conference, 20 Oct 2010, Birmingham.
- 16 Cebon, D. 'Decarbonizing Heavy Goods' Vehicles', 9th Annual Lecture Series in Sustainable Development, Cambridge University Engineering Department, 16th March, 2011.

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8. Cebon, D and Ashby, MF 'Data Systems for Optimal Material Selection', *Advanced Materials and Processes*, 161, (6), pp51-54, June 2003.
9. Walker, D. and Cebon, D. 'The Metamorphosis of LTPP Traffic Data', October 2011.

Dissertations Supervised

1. Cebon, D. 'An investigation of the dynamic interaction between wheeled vehicles and road surfaces'. PhD dissertation, University of Cambridge, 1985.
2. Cole, DJ 'Measurement and analysis of dynamic tyre forces generated by lorries' University of Cambridge, PhD dissertation, 1990.
3. Hardy, MSA 'The response of flexible pavements to dynamic tyre forces' University of Cambridge, PhD dissertation, 1990.
4. Green, MF 'The dynamic response of short-span highway bridges to heavy vehicle loads' University of Cambridge, PhD dissertation, 1990.
5. Nasim, MA 'Effects of heavy vehicle dynamic loading on rigid pavements' University of Michigan, PhD dissertation, 1991.
6. Besinger, FH 'The performance of passive and semi-active suspensions for lorries', University of Cambridge, PhD dissertation, 1992.
7. Collop, AC 'Effects of traffic and temperature on flexible pavement wear', University of Cambridge, PhD dissertation, 1994.
8. Lin, RC 'An investigation of active roll control for heavy vehicle suspensions', University of Cambridge, PhD dissertation, 1994.
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10. Cheung, CY 'Mechanical behaviour of bitumen and bituminous mixes', University of Cambridge, PhD dissertation, 1995.
11. Dorling, RJ 'Integrated Control of Road Vehicle Dynamics' University of Cambridge, PhD dissertation, 1996.
12. Yap, DSC 'Energy confinement in imperfect periodic systems' University of Cambridge, PhD dissertation, 1996.
13. Kitching, KJ 'Semi-active damping of heavy vehicles' University of Cambridge, PhD dissertation, 1997.

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15. Fu, TT, 'An investigation of heavy vehicle suspension design', University of Cambridge, PhD dissertation, 1998.
16. McKeivitt, G, 'Design of roll-control systems for heavy vehicles', University of Cambridge, MPhil dissertation, 1999.
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24. Jujnovich, B. 'Active steering of heavy goods vehicles', University of Cambridge, PhD Dissertation, 2005.
25. Cheng, C. 'Enhancing safety of actively-steered articulated vehicles', University of Cambridge, PhD Dissertation, March 2009.
26. Costanzi, M. 'Modelling deformation of asphalt pavements', University of Cambridge, PhD Dissertation, September 2009.
27. Portillo, O. 'Fracture mechanics of bitumen and asphalt mixes', University of Cambridge, PhD Dissertation, November 2009.
28. Miller, JI. 'Advanced Braking Systems for Heavy Vehicles' University of Cambridge, PhD Dissertation, September 2010.
29. Kienhöfer, FW. 'Heavy vehicle wheel slip control' University of Cambridge, PhD Dissertation, April 2011.
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Patents

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2. 'Capacitative weight sensor'.
UK Patent 8807798.7, European Patent 89303112.0, US Patent 839303112.0, 1988 with D.J. Cole, M.S.A. Hardy, D.E. Newland.
3. 'Frictionless support for the end of a leaf-spring', 1991, UK Patent application GB 9225812.8, with D.J. Cole.
4. 'Suspension integrity monitor', 1996, UK Patent application 9625876.9, with RJ Hammond and RJ Dorling.
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Media coverage of Research

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