

Publications

1. I. Kuchin, V. Starov, R. V. Craster and O. K. Matar “The effect of disjoining pressure on wetting parameters and the equilibrium interface profile in the transition zone” to appear *Soft Matter* 2014
2. T. Antonakakis, R. V. Craster and S. Guenneau “Homogenisation for elastic photonic crystals and metamaterials” to appear in *J. Mech. Phys. Solids* 2014
3. A. Wray, D. Papageorgiou, R. V. Craster, K. Sefiane and O. K. Matar, “Electrostatic suppression of the ‘coffee stain effect’ ” to appear in *Langmuir* 2014
4. P. E. Theodorakis, E. A. Müller, R. V. Craster and O. K. Matar “Insights into surfactant-assisted superspreading” *Current Opinion in Colloid and Interface Science* to appear 2014 [Download](#)
5. T. Antonakakis, R. V. Craster & S. Guenneau, “Moulding and shielding flexural waves in elastic plates” *Euro. Phys. Lett.* **105**(5):6 pages 54004 2014
6. T. Antonakakis, R. V. Craster, S. Guenneau & E. A. Skelton “An asymptotic theory for waves guided by diffraction gratings or along microstructured surfaces” *Proc. R. Soc. Lond. A*, **470**, 20130467, 2014
7. R. V. Craster, L. M. Joseph & J. Kaplunov, “Long-wave asymptotic theories: The connection between functionally graded waveguides and periodic media” *Wave Motion*, **51**, 581–588, 2014
8. T. Antonakakis, R. V. Craster and S. Guenneau, “High-frequency homogenization of zero frequency stop band photonic and phononic crystals”, *New J Phys*, **15** 103014, 2013
9. L. M. Joseph and R. V. Craster, “Asymptotics for Rayleigh-Bloch waves along lattice line defects” *Multiscale Modeling and Simulation*, **11**, 871–889, 2013 [Download](#)
10. T. Antonakakis, R. V. Craster and S. Guenneau, “Asymptotics for metamaterials and photonic crystals”, *Proc R. Soc. Lond. A*, **469**, 20120533, 2013 [Download](#)
11. M. Makwana and R. V. Craster, “Localised point defect states in asymptotic models of discrete lattices”, *QJMAM*, **66**, 289–316, 2013
12. S. Bhattacharya, R. V. Craster and M. R. Flynn, “Buckling of a thin, viscous film in an axisymmetric geometry”, *Phys. Fluids*, **25**, 043102, 2013 [Download](#)
13. D. T. Conroy, R. V. Craster, O. K. Matar, L.-J. Cheng and H.-C. Chang “Non-equilibrium hysteresis and Wien effect water dissociation at a Bipolar Membrane” *Phys. Rev. E*, **86**, 056104, 2012 [Download](#)
14. R. V. Craster, T. Antonakakis, M. Makwana & S. Guenneau “Dangers of using the edges of the Brillouin zone” *Phys. Rev. B*, **86**, 115130, 2012 [Download](#)
15. P. Rajagopal, M. Drozd, E. Skelton, M. J. S. Lowe and R. V. Craster “On the use of absorbing layers to simulate the propagation of elastic waves in unbounded media using commercially available Finite Element packages” *NDT & E International*, **51**, 30–40, 2012 [Download](#)
16. P. Rajagopal, E. A. Skelton, M. J. S. Lowe and R. V. Craster “A generic hybrid model for bulk elastodynamics, with application to ultrasonic Non-Destructive Evaluation ” *IEEE Trans. Ultrasonics, Ferroelectrics and Frequency Control*, **59**, 1239 - 1252, 2012. [Download](#)

17. D. Conroy, O. K. Matar, R. V. Craster, and D. G. Papageorgiou, “Compound viscous thread with electrostatic and electrokinetic effects” *J. Fluid Mech.*, **701**, 171–200, 2012. [Download](#)
18. T. Antonakakis and R. V. Craster, “High frequency asymptotics for microstructured thin elastic plates and platonics” *Proc R Soc Lond A* **468**, 1408–1427, 2012 [Download](#)
19. R. V. Craster, J. Kaplunov, E. Nolde and S. Guenneau “Bloch dispersion and asymptotic theory for separable doubly-periodic structures” *Wave Motion*, **49**, 333–346, 2012 [Download](#)
20. A. Mavromoustaki, O. K. Matar and R. V. Craster, “Dynamics of a climbing surfactant-laden film II: Stability.” *J Colloid Interface Sci*, **371**, 121–135, 2012
21. A. Mavromoustaki, O. K. Matar and R. V. Craster, “Dynamics of a climbing surfactant-laden film - I: Base-state flow.” *J Colloid Interface Sci*, **371**, 107–120, 2012 [Download](#)
22. G. Karapetsas, R. V. Craster and O. K. Matar, “The surfactant-driven dynamics of liquid lenses” *Physics of Fluids*, **23**, 122106, 2011. [Download](#)
23. A. Mavromoustaki, R. V. Craster and O. K. Matar, “Shock-wave solutions in two-layer channel flow. Part II: linear and nonlinear stability” *Physics of Fluids* **23**, 2011 [Download](#)
24. D. T. Conroy, O. K. Matar, R. V. Craster and D. T. Papageorgiou “Breakup of an electrified viscous thread in an AC field” *Phys Rev E* **83**, 066314, 2011 [Download](#)
25. R. V. Craster, J. Kaplunov, E. Nolde and S. Guenneau “High frequency homogenization for checkerboard structures: Defect modes, ultra-refraction and all-angle-negative refraction” *J. Optical Society America A*, **28**, 1032–1040, 2011 [Download](#)
26. R. V. Craster, S. Guenneau, J. Kaplunov and E. Nolde “On a class of three-phase checkerboards with unusual effective properties” *Comptes Rendus Mecanique*, **339**, 411-417, 2011. [Download](#)
27. T. Touvet, N. J. Balmforth, R. V. Craster and B. R. Sutherland, “Fingering instabilities created by buoyancy-driven fluid-filled cracks” *J. Fluid Mech.*, **672**, 60–77, 2011 [Download](#)
28. D. T. Conroy, O. K. Matar, R. V. Craster & D. T. Papageorgiou “Breakup of an electrified viscous thread with charged surfactants” *Phys. Fluids*, **23**, 022103, 2011 [Download](#)
29. E. Nolde, R. V. Craster and J. Kaplunov “High frequency homogenization for structural mechanics” *J. Mech. Phys. Solids.*, **59**, 651–671, 2011 [Download](#)
30. G. Karapetsas, R. V. Craster and O. K. Matar, “On the surfactant-enhanced spreading and superspreading of liquid drops on solid surfaces” *J. Fluid Mech.*, **670**, 5-37, 2011 [Download](#) (Selected as the Focus on Fluids article for JFM, see C. Maldarelli, JFM, 670, 1-4, 2011).
31. A. Mavromoustaki, R. V. Craster and O. K. Matar, “Shock-wave solutions in two-layer channel flow. Part I: One-dimensional flows” *Physics of Fluids*, **22**, Issue 11, 2010 [Download](#)

32. S. D. M. Adams, K. D. Cherednichenko, S. Guenneau and R. V. Craster, “High-frequency spectral analysis of thin periodic acoustic strips: theory and numerics” *Euro. J. Appl. Maths*, **21**, 557–590, 2010 [Download](#)
33. R. V. Craster, J. Kaplunov and J. Postnova, “High frequency asymptotics, homogenization and localization for lattices” *QJMAM*, **63**, 497–519, 2010. [Download](#)
34. D. Conroy, R. V. Craster, O. K. Matar and D. T. Papageorgiou, “Dynamics and stability of an annular electrolyte film” *J. Fluid Mech.*, **656** 481-506, 2010. [Download](#)
35. R. V. Craster, J. Kaplunov and A. V. Pichugin, “High frequency homogenization for periodic media” *Proc. R. Soc. Lond. A*, **466**, 2341–2362, 2010. [Download](#)
36. A. V. Shanin & R. V. Craster, “Pseudo-differential operators for embedding formulae”, *J. Comp. Appl. Math.*, **234**, 1637–1646, 2010. [Download](#)
37. E. A. Skelton, R. V. Craster, A. V. Shanin, & V. Valyaev, “Embedding formulae for scattering by three-dimensional structures” *Wave Motion*, **47**, 299-317, 2010. [Download](#)
38. N. J. Balmforth, C. Cawthorn and R. V. Craster, “Contact in a viscous fluid: II a compressible fluid and an elastic solid”, *J. Fluid Mech.*, **646**, 339–361, 2010 [Download](#)
39. S. D. M. Adams, R. V. Craster and D. P. Williams, “The acoustical responses of partially filled elastic cylinders” *J. Sound Vibration*, **329**, 2147–2157, 2010 [Download](#)
40. G. M. Sisoiev, O. K. Matar, R. V. Craster and S. Kumar, “Coherent wave structures on falling fluid films flowing down a flexible wall”, *Chem. Engng. Sci.*, **65**, 950-961, 2010 [Download](#)
41. D. R. Beacham and O. K. Matar, R. V. Craster, “Surfactant-enhanced rapid spreading of drops on solid surfaces” *Langmuir*, **25**, 14174–14181, 2009. [Download](#)
42. O. K. Matar and R. V. Craster, “Dynamics of surfactant-assisted spreading” *Soft Matter*, **5**, 3801–3809, 2009, DOI: 10.1039/B908719M. [Download](#)
43. S. D. M. Adams, R. V. Craster & S. Guenneau “Negative bending mode curvature via Robin boundary conditions” *Comptes Rendus Physique*, **10**, 437–446, 2009. [Download](#)
44. R. V. Craster and O. K. Matar, “Dynamics and stability of thin liquid films”, *Reviews of Modern Physics*, **81**, 1131–1198, 2009. [Download](#)
45. S. D. M. Adams, R. V. Craster and S. Guenneau, “Guided and standing Bloch waves in periodic elastic strips”, *Waves in Random and Complex Media*, **19**, 321-346 2009. [Download](#)
46. R. V. Craster, O. K. Matar, & D. T. Papageorgiou, “Breakup of surfactant-laden jets above the critical micelle concentration” *J. Fluid Mech.*, **629**, 195–219, 2009 [Download](#)
47. R. V. Craster, O. K. Matar and K. Sefiane, “Pinning, retraction and terracing of evaporating droplets containing nanoparticles” *Langmuir*, **25**, 3601–3609, 2009 [Download](#)

48. R. V. Craster, S. Guenneau and S. D. M. Adams, “The mechanism for the creation of slow waves near cut-off frequencies in periodic waveguides” *Physical Review B*, **79**, 045129, 2009. [Download](#)
49. A. C. Slim, N. J. Balmforth, R. V. Craster and J. C. Miller, “Surface wrinkling of a channelized flow” *Proc. Roy. Soc. Lond. A*, **465**, 123–142, 2008. [Download](#)
50. S. D. M. Adams, R. V. Craster and S. Guenneau, “Bloch waves in periodic multi-layered waveguides” *Proc. Roy. Soc. Lond. A*, **464**, 2669–2692, 2008 [Download](#)
51. K. Sefiane, J. R. Moffat, O. K. Matar and R. V. Craster, “Self-excited hydrothermal waves in evaporating sessile drops” *Applied Physics Letters*, **93**, 074103, 2008 [Download](#)
52. J. Postnova & R. V. Craster, “Trapped modes in three-dimensional topographically varying plates” *IMA J Appl Math* **73**, 950–963, 2008 [Download](#)
53. N. J. Balmforth, R. V. Craster & A. C. Slim “On the buckling of elastic plates”, *QJMAM* 2008 [Download](#)
54. E. A. Skelton, R. V. Craster & A. V. Shanin, “Embedding formulae for diffraction by non-parallel slits” *QJMAM* 2008. [Download](#)
55. J. Postnova & R. V. Craster, “Trapped modes in elastic plates, ocean and quantum waveguides”, *Wave Motion*, **45**, 565–579, 2008 [Download](#)
56. O. K. Matar, R. V. Craster and S. Kumar “Falling films on flexible inclines” *Phys. Rev. E*, **76**, 056301, 2007. [Download](#)
57. A. T. I. Adamou, R. V. Craster & S. G. Llewellyn-Smith, “Trapped edge waves in stratified rotating fluids: numerical and asymptotic results”, *J. Fluid Mech.* **592**, 195–220, 2007 [Download](#)
58. O. K. Matar, R. V. Craster and K. Sefiane, “Dynamic spreading of droplets containing nanoparticles” *Phys. Rev. E*, **76**, 056315 2007 [Download](#)
59. E. A. Skelton, S. D. M. Adams, and R. V. Craster “Guided Elastic Waves and perfectly matched layers” *Wave Motion*, **44**, 573–592, 2007. [Download](#)
60. O. K. Matar and R. V. Craster, “On autophobing in surfactant-driven thin films” *Langmuir*, **23**, 2588–2601, 2007. [Download](#)
61. J. Postnova and R. V. Craster, “Trapped modes in topographically varying elastic waveguides” *Wave Motion*, **44**, 205–221, 2007 [Download](#)
62. S. D. M. Adams, R. V. Craster and D. P. Williams, “Rayleigh waves guided by topography” *Proc R Soc Lond A* , **463**, 531–550, 2007 [Download](#)
63. L. Y. Yeo, R. V. Craster and O. K. Matar, “Drop manipulation and surgery using electric fields” *JCIS*, **306**, 368–378, 2007. [Download](#)
64. N. J. Balmforth, R. V. Craster, P. Perona, A. C. Rust and R. Sassi, “Viscoplastic dam breaks and the Bostwick consistometer”, *J. Non-Newt. Fluid Mech.*, 2006 [Download](#)
65. G. M. Sisoiev, R. V. Craster, O. K. Matar and S. V. Gerasimov, “ Film flow down a fibre at moderate Reynolds number”, *Chem. Engng. Sci.* 2006 [Download](#)
66. O. K. Matar and R. V. Craster, “The dynamics of liquid lenses”, **303**, 503–516, *JCIS* 2006: [Download](#)

67. B. D. Edmonstone, R. V. Craster and O. K. Matar, “Surfactant-induced fingering phenomena beyond the critical micelle concentration” *J. Fluid Mech.* **564**, 105 - 138, 2006. [Download](#)
68. N. J. Balmforth, R. V. Craster, A. C. Rust and R. Sassi, “Viscoplastic flow over an inclined surface”, *J. Non-Newt. Fluid Mech.*, **139**, 103–127 2006 [Download](#)
69. R. V. Craster and O. K. Matar, “On viscous beads flowing down a vertical fibre”, *J. Fluid Mech.*, **553**, 85–106, 2006 [Download](#)
70. O. K. Matar and R. V. Craster, “Numerical simulations of fingering instabilities in surfactant-driven thin films”, *Physics of Fluids*, **18**, 032103, (12 pages) 2006. [Download](#)
71. B. D. Edmonstone, O. K. Matar and R. V. Craster, “A note on the coating of an inclined plane in the presence of soluble surfactant”, *J. Coll. Int. Sci.*, **293**, 222–229, 2006 [Download](#)
72. B. D. Edmonstone, R. V. Craster and O. K. Matar, “Surfactant-induced fingering phenomena in thin film flow down an inclined plane” *Physica D* **209**, 62-79, 2005 [Download](#)
73. R. V. Craster & Yu. V. Obnosov “A model four-phase square checkerboard structure”, *QJMAM* pages 1-27: 2005 [Download](#)
74. R. V. Craster & O. K. Matar “Electrically induced pattern formation in thin leaky dielectric films”, *Phys Fluids*, **17**, Art 032104, 2005 [Download](#)
75. D. Gridin, A. T. I. Adamou, & R. V. Craster, “Trapped modes in bent elastic rods”, *Wave Motion*, **42**, 352–366, 2005 [Download](#)
76. A. T. I. Adamou, D. Gridin & R. V. Craster, “Acoustic quasi-modes in slowly-varying cylindrical tubes”, *QJMAM*, **58**, 1–20, 2005 [Download](#)
77. R. V. Craster, O. K. Matar and D. T. Papageorgiou “On compound threads with large viscosity contrasts” *J. Fluid Mech.*, **533**, 95–124, 2005 [Download](#)
78. R. V. Craster & A. V. Shanin “Embedding formulae for diffraction by rational wedge and angular geometries” *Proc R Soc Lond A.*, **461**, 2227–2242, 2005 [Download](#)
79. B. D. Edmonstone, O. K. Matar and R. V. Craster, “Coating of an inclined plane in the presence of insoluble surfactant”, *J. Coll. Int. Sci.*, **287**, 261–272, 2005 [Download](#)
80. D. Gridin, R. V. Craster and A. T. I. Adamou “Trapped modes in curved elastic plates” *Proc R Soc Lond A*, **461**, 1181–1197, 2005 [Download](#)
81. N. J. Balmforth, J. W. M. Bush and R. V. Craster, “Roll waves on flowing cornstarch suspensions”, *Phys Letts A*, **338**, 479–484, 2005 [Download](#)
82. N. J. Balmforth, R. V. Craster and A. Rust, “Instability in flow through elastic conduits and volcanic tremor”, *J. Fluid Mech.* , **527**, 353–377, 2005 [Download](#)
83. B. D. Edmonstone, R. V. Craster and O. K. Matar, “Flow of surfactant laden thin films down an incline”, *J Engng Maths*, **50**, 141–156, 2005 [Download](#)
84. O. K. Matar, S. Kumar and R. V. Craster “Nonlinear parametrically-excited surface waves in surfactant-covered thin liquid films”, *J. Fluid Mech.* **520**, 243–265, 2004 [Download](#)

85. M. R. E. Warner, R. V. Craster & O. K. Matar, “Fingering phenomena created by a soluble surfactant deposition on a thin liquid film”, *Phys Fluids* **16**, 2933-2951, 2004 [Download](#)
86. A. T. I. Adamou and R. V. Craster, “Spectral methods for modelling guided waves in elastic media”, *J. Acoust. Soc. Am.* **116**, 1524–1535, 2004 [Download](#)
87. M. R. E. Warner, R. V. Craster & O. K. Matar, “Fingering phenomena associated with surfactant spreading on thin liquid films”, *J. Fluid Mech.*, **510**, 169–200, 2004 [Download](#)
88. D. Gridin, A. T. I. Adamou and R. V. Craster, “ Electronic eigenstates in quantum rings: Asymptotics and numerics”, *Phys Rev B*, **69**, art. no. 155317 2004 [Download](#)
89. Y. L. Zhang, O. K. Matar and R. V. Craster, “Rupture analysis of the Corneal Mucus layer of the tear film”, *Molecular Simulation*, **30**, 167–172, 2004 [Download](#)
90. D. Gridin and R. V. Craster, “Lamb quasi-modes of a weakly curved waveguide”, *Proc Roy Soc Lond A*, **460** , 1831–1847, 2004 [Download](#)
91. R. V. Craster and Yu. V. Obnosov, “A three phase tessellation: solution and effective properties”, *Proc. R. Soc. Lond. A.*, **460**, 1017–1037, 2004. [Download](#)
92. N. J. Balmforth, R. V. Craster & R. Sassi, “Dynamics of cooling viscoplastic domes” *J. Fluid Mech.* **499**, 149–182, 2004. [Download](#)
93. M. R. E. Warner, R. V. Craster and O. K. Matar, “Pattern formation in thin liquid films with charged surfactants”, *J. Coll. Inter. Sci.*, **268** (2), 448-463 2003 [Download](#)
94. R. V. Craster, O. K. Matar and D. T. Papageorgiou “Pinchoff and satellite formation in compound viscous threads”, *Phys. Fluids.*, **15**, 3409–3428, 2003 [Download](#)
95. N. J. Balmforth , R. V. Craster and C. Toniolo, “Interfacial instability in superposed non-Newtonian fluid layers”, *Phys. Fluids.*, **15**, 3370–3384, 2003 [Download](#)
96. L. Y. Yeo, R. V. Craster and O. K. Matar, “Marangoni instability of a thin liquid film resting on a locally heated horizontal wall” *Phys Rev E*, **67** (5): art. no. 056315, 2003 [Download](#)
97. Y. L. Zhang, O. K. Matar and R. V. Craster, “Surfactant driven flows overlying hydrophobic epithelium: film rupture in the presence of slip”, *J. Colloid & Interface Science*, **264**, 160–175, 2003 [Download](#)
98. M. R. E. Warner, R. V. Craster and O. K. Matar, “Surface patterning via evaporation of ultrathin films containing nanoparticles”, *J. Colloid Interface Sci*, **267**, 92–110, 2003 [Download](#)
99. Y. L. Zhang, O. K. Matar and R. V. Craster, “Analysis of tear film rupture: Effect of non-Newtonian rheology”, *J Coll. Int. Sci.*, **262** (1) 130-148, 2003 [Download](#)
100. D. Gridin and R. V. Craster, “Quasi-modes of a weakly curved waveguide”, *Proc. Roy. Soc. Lond A*, **459**, 2909–2931, 2003 [Download](#)
101. R. V. Craster, A. V. Shanin and E. M. Dubravsky “Embedding formulae in diffraction theory”, *Proc. R. Soc. Lond. A*, **459**, 2475–2496, 2003 [Download](#)

102. D. Gridin, R. V. Craster, J. Fong, M. J. S. Lowe and M. Beard “The high frequency asymptotic analysis of guided waves in a circular elastic annulus”, *Wave Motion*, **38**, 67–90, 2003 [Download](#)
103. Y. L. Zhang, O. K. Matar and R. V. Craster, “A theoretical study of chemical delivery within the lung using exogenous surfactant”, *Medical Engineering & Physics*, **25**, 115–132, 2003. [Download](#)
104. N. J. Balmforth, R. V. Craster and R. Sassi, “Shallow viscoplastic flow on an inclined plane”, *J. Fluid Mech.*, **470**, 1–29, 2002 [Download](#)
105. A. V. Shanin and R. V. Craster, “Removing false singular points as a method of solving ordinary differential equations”, *Euro. J. Appl. Maths*, 13 (6), 617–639, 2002 [Download](#)
106. O. K. Matar, R. V. Craster and M. R. E. Warner, “Surfactant transport on highly viscous surface films”, *J. Fluid Mech.*, **466**, 85–111, 2002 [Download](#)
107. M. R. E. Warner, R. V. Craster & O. K. Matar, “Dewetting of ultrathin surfactant covered films” *Phys Fluids*, **14**, 4040–4054, 2002 [Download](#)
108. V. H. Hoàng and R. V. Craster, “Wedge solidification with differing types of boundary conditions”, *IMA J. Appl. Math*, **67**, 509–524, 2002 [Download](#)
109. Y. L. Zhang, O. K. Matar and R. V. Craster, “Surfactant spreading on a thin weakly viscoelastic liquid film”, *J. Non-Newton. Fluid Mech.*, 105, 53–78, 2002. [Download](#)
110. M. R. E. Warner, R. V. Craster and O. K. Matar, “Unstable van der Waals driven line rupture in Marangoni driven thin viscous films”, *Phys. Fluids*, 14, 1642–1654, 2002 [Download](#)
111. R. V. Craster, O. K. Matar and D. T. Papageorgiou, “Pinchoff and satellite formation in surfactant covered viscous threads”, *Phys. Fluids*, 14, 1364–1376, 2002. [Download](#)
112. R. V. Craster and Yu. V. Obnosov, “Checkerboard composites with separated phases”, *J. Math. Phys.*, **42** (11), 5379–5388, 2001 [Download](#)
113. O. K. Matar and R. V. Craster, “Models for Marangoni Drying”, *Phys. Fluids A*, **13** (7), 1869–1883, 2001. [Download](#)
114. R. V. Craster and Yu. V. Obnosov, “Four phase checkerboard composites”, *SIAM J. Appl. Maths*, **61**, 1839–1856, 2001 [Download](#)
115. R. V. Craster and D. P. Williams, “Pulse scattering by a subsurface semi-infinite crack” *Int. J. Solids Struct.*, **38** (4), 685–716, 2001 [Download](#)
116. R. V. Craster and O. K. Matar, “Surfactant transport on mucus films”, *J. Fluid Mech.*, **425**, 235–258, 2000 [Download](#)
117. R. V. Craster and D. P. Williams, “A reciprocity relation for fluid loaded elastic plates that contain rigid defects” *J. Sound Vib.* **235**, 655–670, 2000 [Download](#)
118. N. J. Balmforth and R. V. Craster “Dynamics of cooling domes of viscoplastic fluid”, *J. Fluid Mech.*, **422**, 225–247, 2000 [Download](#)
119. R. V. Craster, “On effective resistivity and related parameters for periodic checkerboard composites”, *Proc. R. Soc. Lond. A*, **456**, 2741–2754, 2000 [Download](#)

120. N. J. Balmforth, A. S. Burbidge, R. V. Craster, J. Salzig and A. Shen, “Viscoplastic models of isothermal lava domes”, *J. Fluid Mech.*, **403**, 37–65, 2000 [Download](#)
121. D. P. Williams and R. V. Craster, “Cagniard–de Hoop path perturbations with applications to non-geometric wave arrivals”, *J. Engng Math.*, 37, 253–272, 2000 [Download](#)
122. N. J. Balmforth, R. V. Craster and P. G. Kevrekidis, “Being stable and discrete”, *Physica D*, **135**, 212–232, 2000 [Download](#)
123. R. V. Craster and S. G. Llewellyn–Smith, “Numerical methods based on integral equation formulations for finite elastic plates in structural acoustics”, *Journal of the Acoustical Society of America*, **106**, 3128–3134, 1999 [Download](#)
124. N. J. Balmforth and R. V. Craster, “Ocean waves and ice sheets”, *J. Fluid Mech.*, **395**, 89–124, 1999 [Download](#)
125. S. G. Llewellyn–Smith and R. V. Craster, “Numerical and asymptotic approaches to scattering problems involving finite elastic plates in structural acoustics”, *Wave Motion*, **30**, 17–41, 1999 [Download](#)
126. N. J. Balmforth, R. V. Craster and S. J. A. Malham, “Unsteady fronts in an autocatalytic system”, *Proc. R. Soc. Lond. A*, **455**, 1401–1433, 1999 [Download](#)
127. N. J. Balmforth and R. V. Craster, “A consistent thin–layer theory for Bingham plastics”, *J. Non–Newtonian Fluid Mech.*, **84**, 65–81, 1999 [Download](#)
128. D. P. Williams and R. V. Craster, “Scattering by small defects in the neighbourhood of a fluid/solid interface”, *IMA J. Appl. Maths*, **61**, 155–177 1998. [Download](#)
129. R. V. Craster and V. H. Hoàng, “Applications of Fuchsian differential equations to free boundary problems”, *Proc. R. Soc. Lond. A*, **454**, 1241–1252, 1998. [Download](#)
130. R. V. Craster, “Scattering by cracks beneath fluid–solid interfaces”, *J. Sound Vib.*, **209**, 343–372, 1998. [Download](#)
131. N. J. Balmforth and R. V. Craster, “Synchronizing Moore and Spiegel”, *Chaos*, **7**, 4, 738–752, 1997. [Download](#)
132. N. J. Balmforth and R. V. Craster, “Stability of vorticity defects in viscoelastic shear flow”, *J. Non–Newtonian Fluid Mech.*, **72**, 281–304, 1997. [Download](#)
133. R. V. Craster, “The light fluid loading limit for fluid/solid interactions”, *Euro. J. Appl. Maths*, **8**, 485–506, 1997. [Download](#)
134. R. V. Craster, “The solution of a class of free boundary problems”, *Proc. R. Soc. Lond. A*, **453**, 607–630, 1997. [Download](#)
135. R. V. Craster, “Wavefront expansions for pulse scattering by a surface inhomogeneity”, *Quart. J. Mech. appl. Math.*, **49**, 657–674, 1996. [Download](#)
136. R. V. Craster, “Conformal mappings involving curvilinear quadrangles”, *IMA J. Appl. Maths*, **57**, 181–191, 1996. [Download](#)
137. R. V. Craster, “A canonical problem for fluid–solid interfacial wave coupling”, *Proc. R. Soc. Lond. A*, **452**, 1695–1711, 1996. [Download](#)
138. R. V. Craster and C. Atkinson, “On finite length cracks and inclusions in poroelasticity”, *Quart. J. Mech. appl. Math.*, **49**, 311–335, 1996. [Download](#)

139. R. V. Craster, “Yield surfaces for Herschel-Bulkley flows in complex geometries”, *IMA J. Appl. Maths.*, **56**, 253-276, 1996. [Download](#)
140. C. Atkinson and R. V. Craster, “Theoretical aspects of fracture mechanics”, *Progress in Aerospace Science*, **31**, 1-83, 1995. [Download](#)
141. R. V. Craster, “Solutions for Herschel-Bulkley flows”, *Quart. J. Mech. appl. Math.*, **48**, 3, 343-374, 1995. [Download](#)
142. R. V. Craster and C. Atkinson, “Crack problems in a poroelastic material : an asymptotic approach”, *Phil. Trans. R. Soc. Lond. A*, **346**, 387-428, 1994. [Download](#)
143. C. Atkinson and R. V. Craster, “A singular perturbation approach to integral equations occurring in poroelasticity”, *IMA J. Appl. Maths*, **52**, 221-252, 1994. [Download](#)
144. R. V. Craster and C. Atkinson, “Mixed boundary value problems in non-homogeneous materials”, *Quart. J. Mech. appl. Math.*, **47**, 2, 183-206, 1994. [Download](#)
145. C. Atkinson and R. V. Craster, “Interfacial fracture of a radially inhomogeneous elastic bimaterial”, *Int. J. Solids Struct.*, **31**, 9, 1207-1223, 1994. [Download](#)
146. R. V. Craster, “Two related free boundary problems”, *IMA J. Appl. Maths*, **52**, 253-270, 1994. [Download](#)
147. R. V. Craster and C. Atkinson, “Shear cracks in thermoelastic and poroelastic media”, *J. Mech. Phys. Solids*, **40**, 4, 887-924, 1992. [Download](#)
148. C. Atkinson and R. V. Craster, “The application of invariant integrals in elastic diffusive solids”, *Phil. Trans. R. Soc. Lond.*, **A 339**, 231-262, 1992. [Download](#)
149. R. V. Craster and C. Atkinson, “Interfacial fracture in diffusive elastic media”, *Int. J. Solids Struct.*, **29**, 1463-1498, 1992. [Download](#)
150. C. Atkinson and R. V. Craster, “Fracture in fully coupled dynamic thermoelasticity”, *J. Mech. Phys. Solids*, **40**, 1415-1432, 1992. [Download](#)
151. C. Atkinson and R. V. Craster, “Plane strain fracture in poroelastic media”, *Proc. R. Soc. Lond. A*, **434**, 605-633, 1991. [Download](#)

Books edited

1. Dynamic localization phenomena in elasticity, acoustics and electromagnetism, Editors R. V. Craster and J. Kaplunov, Springer-Verlag, CISM Courses and Lectures, 978-3-7091-1618-0, 2013
2. Acoustic Metamaterials (an edited volume) R. V. Craster and S. Guenneau, Springer-Verlag, 2012 [Download](#)
3. Elastic waves at high frequencies: a collection of research on radiation, diffraction and surface waves. Editors G. I. Block, R. V. Craster, A. Norris, P. A. Martin. Cambridge University Press, 2010

Invited papers, book chapters, conference proceedings and sundry others

1. Wonjae Choi, Elizabeth A. Skelton, Fan Shi, Michael J. S. Lowe and Richard V. Craster “Rough surface reconstruction for ultrasonic NDE simulation” 40TH ANNUAL REVIEW OF PROGRESS IN QUANTITATIVE NONDESTRUCTIVE EVALUATION: Incorporating the 10th International Conference on Barkhausen Noise and Micromagnetic Testing **1581**, 587-594, 2014
2. Fundamentals of acoustic metamaterials 1-42, in Acoustic Metamaterials (an edited volume) R. V. Craster and S. Guenneau, Springer-Verlag, 2012 [Download](#)
3. S. Guenneau, R. Craster, T. Antonakakis, K. Cherednichenko and S. Cooper, Chapter 11, “Homogenization techniques for periodic structures” in “Gratings: Theory and Numeric Application” ISBN 2-85399-860-4, Editor E. Popov, Institut Fresnel AMU, CNRS, 2012. Ebook available [here](#)
4. R. V. Craster, “Chapter 8: Near cut-off behaviour in waveguides” in Elastic waves at high frequencies: a collection of research on radiation, diffraction and surface waves. Editors G. I. Block, R. V. Craster and A. Norris. Cambridge University Press, 2010
5. P. Rajagopal, E. Skelton, Michael J. S. Lowe, R. V. Craster and J. Russell, “Generic time-domain hybrid models for ultrasonic NDE” Review of Progress in Quantitative NDE (American Institute of Physics), Ed. Thompson D.O. and Chimenti D.E., July 2010 to appear
6. P. Rajagopal, E. Skelton, M. Lowe and R. V. Craster, “Finite element based hybrid models for ultrasonic NDE using commercial packages” Review of Progress in Quantitative NDE (American Institute of Physics), Ed. Thompson D.O. and Chimenti D.E., July 2009, **29**, 662-669
7. P. Rajagopal, E. Skelton, M. Lowe and R. V. Craster, “Finite element based hybrid models for simulation of ultrasonic inspection in the nuclear industry: development of general procedures” 7th International Conference on NDE, May 2009, Yokohama, Japan, 2009
8. D. R. Beacham, O. K. Matar and R. V. Craster, “Advancing contact line dynamics induced by soluble surfactant deposition on a thin liquid film” 15th International Congress on Rheology/80th Annual Meeting of the Society-of-Rheology, August 03-08, Monterey, 1060-1062, 2008
9. M. Drozd, M. J. S. Lowe, E. Skelton and R. V. Craster, “Modeling bulk and guided wave propagation in unbounded elastic media using absorbing layers in commercial FE packages”, Review of Progress in Quant. Non Destruct. Eval., Ed. Thompson D.O. and Chimenti D.E., AIP Conf. Proc., New York, 26, 87-94, 2007.

10. R. V. Craster and A. V. Shanin, "Embedding formulae for planar cracks", NATO Advanced Research Workshop on Surface Waves in Anisotropic and Laminated Bodies and Defects Detection, Kluwer Academic Publishers, 2004
11. Yu. V. Obnosov and R. V. Craster, "Three-phase regular hexagonal composites". Intern. conf. AMADE, Minsk, Belarus., 4-9 September 2003, p.132
12. J. Fong, M. J. S. Lowe, D. Gridin and R. V. Craster, "Fast techniques for calculating dispersion relations of circumferential waves in annular structures" in Review of Progress in Quantitative NDE (American Institute of Physics), vol. 22, 213-220, 2002 [Download](#)
13. O. K. Matar, R. V. Craster and M. R. E. Warner, "Marangoni driven spreading of surfactant on Newtonian and Non-Newtonian bilayers", European Congress on Computational Methods in Applied Sciences and Engineering, ECCOMAS Computational Fluid Dynamics Conference 2001
14. N. J. Balmforth and R. V. Craster, "Geophysical aspects of Non-Newtonian fluid mechanics", pp. 34-51, in Geomorphological Fluid Mechanics, (Eds N. J. Balmforth and A. Provenzale), Lecture notes in physics, Springer-Verlag, 2002
15. N. J. Balmforth, A. S. Burbidge and R. V. Craster, "Shallow lava theory", pp. 164-187, in Geomorphological Fluid Mechanics, (Eds N. J. Balmforth and A. Provenzale), Lecture notes in physics, Springer-Verlag, 2002
16. N. J. Balmforth, A. S. Burbidge and R. V. Craster, "Extrusion of isothermal and non-isothermal viscoplastic materials - evolving lava domes", Volume 4 the proceedings of the XIIIth International Congress on Rheology 4.7-4.8, 2000
17. R. V. Craster, "A class of Fuchsian differential equations", in Proceedings of the centenary conference in honour of P. Ya Polubarinova-Kochina, 38-39, 1999
18. C. Atkinson and R. V. Craster, "Cracks in poroelastic materials with a highly anisotropic fluid response", in Engineering Mechanics, Volume 1 the proceedings of the 11th conference. ASCE 212-215, 1996
19. C. Atkinson and R. V. Craster, "Invariant integrals, stress concentrations and energy release rates", pp 496-517 in FRACTURE: A topical encyclopedia of current knowledge dedicated to Alan Arnold Griffith (Ed. Cherepanov G.), Krieger Publishing Co., USA, 1995
20. R. V. Craster, "Dislocation solutions for a nonlinear material with a yield stress", pp.109-114 in IUTAM Symposium on Anisotropy, Inhomogeneity and Nonlinearity in Solid Mechanics (Eds D.F. Parker and A.H. England), Kluwer Academic Publishers. 1995
21. R. V. Craster and C. Atkinson, "Theoretical aspects of fracture in porous elastic media", 'Mechanics of Poroelastic Media' (Ed. A. P. S. Selvadurai), Kluwer Academic Press, pp. 23-45, 1995
22. C. Atkinson and R. V. Craster, "The mathematics of darts (or where to aim?)", *The Mathematical Scientist*, **16**, 69-77, 1991