

## C.M.Elliott Publications:

### Research articles under review

1. C.M. Elliott and T. Ranner *Finite element analysis for a coupled bulk-surface partial differential equation*
2. G. Dziuk and C. M. Elliott *Fully discrete evolving surface finite element method* SIAM J. Numer. Anal. Submitted (2011)

### Research Articles in Refereed Journals and Collections

3. C. M. Elliott and B. Stinner *Computation of two-phase biomembranes with phase dependent material parameters using surface finite elements* Communications in Computational Physics (Accepted)
4. G. Dziuk and C. M. Elliott *L2 estimates for the evolving surface finite element method* Math. Comp. (accepted)
5. K. P. Deckelnick, C.M. Elliott and V. Styles *Numerical analysis for an inverse problem for the eikonal equation* Numerische Mathematik **119** (2011) 245–269
6. R. Barreira, C. M. Elliott and A. Madzvamuse *Surface finite element method for pattern formation on evolving biological surfaces* J. Math. Biol. **63** (2011) 1095–1119
7. C. M. Elliott, B. Stinner, V. M. Styles and R. Welford *Numerical computation of advection and diffusion on evolving diffuse interfaces* IMAJ Num. Anal. **31** (2011) 786–812
8. C. M. Elliott and B. Stinner *A surface phase field model for two-phase biological membranes* SIAM J. Applied Math. **70** (2010) 2904–2928
9. C. M. Elliott and B. Stinner *Modelling and computation of two phase geometric biomembranes using surface finite elements* J. Comp. Phys. **229** (2010) 6585–6612
10. G. Dziuk and C.M. Elliott *An Eulerian approach to transport and diffusion on evolving surfaces* Computing and Visualization in Science **13** (2010) 17–28
11. K. P. Deckelnick, G. Dziuk, C. M. Elliott and C.-J. Heine *An  $h$ -narrow band finite element method for elliptic equations on implicit surfaces* IMAJ Num. Anal. **30** (2010) 351–376
12. K. P. Deckelnick, C.M. Elliott and V. Styles *Optimal control of the propagation of a graph in inhomogeneous media* SIAM J. Control and Optimisation **48**(2009) 1335–1352
13. C. M. Elliott and B. Stinner *Analysis of a diffuse interface approach to an advection diffusion equation on a moving surface* Math. Mod. Meth. Appl. Sci. **19** (2009) 787–802
14. C.M. Elliott and S. Smitheman *Numerical analysis of the TV regularization and  $H^{-1}$  fidelity model for decomposing an image into cartoon plus texture* IMAJ Num. Anal. **29** (2009) 651–689
15. C. Eilks and C. M. Elliott *Numerical simulation of dealloying by surface dissolution via the evolving surface finite element method* J. Comp. Phys. **227** (2008) 9727–9741
16. G. Dziuk and C.M. Elliott *Eulerian finite element method for parabolic equations on implicit surfaces* Interfaces Free Boundaries **10** (2008) 119–138
17. C. M. Elliott and Y. Kashima *A finite element analysis of critical state models for Type II superconductivity in 3D.* IMA Journal of Numerical Analysis **27** (2007) 293–331
18. G. Dziuk and C.M. Elliott *Finite elements on evolving surfaces* IMAJ Num. Anal. **27** (2007) 262–292

19. C.M. Elliott and S. A. Smitheman *Analysis of the TV regularization and  $H^{-1}$  fidelity model for decomposing an image into cartoon plus texture* Comm. Pure Appl. Anal. **6** (2007) 917–936
20. G. Dziuk and C.M. Elliott *Surface finite elements for parabolic equations* J. Computational Mathematics **25** (2007) 385–407
21. C.M. Elliott, B. Gawron, S. Maier-Paape and E.S. Van Vleck *Discrete dynamics for convex and non-convex smoothing functionals in PDE based image restoration* Communications Pure Appl. Anal. **5** (2006) 181–200
22. K.P. Deckelnick and C.M. Elliott *Propagation of graphs in two dimensional inhomogeneous media.* Applied Num. Maths. **5** (2006) 1163–1178
23. C.M. Elliott, D. Kay and V. Styles *Finite element analysis of a current density - electric field formulation of Bean's model for superconductivity* IMA J. Num. Anal. **25** (2005) 182–204.
24. K.P. Deckelnick, G. Dziuk and C.M. Elliott *Fully discrete semi-implicit second order splitting for anisotropic surface diffusion of graphs* SIAM J. Num. Anal. **43** (2005) 112–1138
25. K.P. Deckelnick, G. Dziuk and C.M. Elliott *Computation of Geometric PDEs and Mean Curvature Flow* Acta Numerica (2005) 139–232
26. C. M. Elliott, D.Kay and V.M.Styles *A finite element approximation of a variational formulation of Bean's model for superconductivity.* SIAM J Numerical Analysis **42** (2004) 1324–1341.
27. K.P. Deckelnick and C. M. Elliott *Uniqueness and error analysis for Hamilton-Jacobi equations with discontinuities* Interfaces and Free Boundaries **6** (2004) 329–349.
28. C. M. Elliott, Y.Giga and S.Goto *Dynamic boundary condition for Hamilton-Jacobi equations.* SIAM J Mathematical Analysis **34** (2003) 861-881.
29. C. M. Elliott and V.M.Styles *Computations of bidirectional grain boundary dynamics in thin metallic films.* Journal Computational Physics **187** ( 2003) 524-543 .
30. K.P. Deckelnick, G. Dziuk and C.M. Elliott *Error analysis of a semidiscrete numerical scheme for diffusion in axially symmetric surfaces .* SIAM J Numerical Analysis **41**(2003) 2161–2179.
31. A.J.Briggs, JR.Claissse and C.M. Elliott *Finite difference approximation of a one dimensional Hamilton-Jacobi /elliptic system arising in superconductivity.* IMA Journal of Numerical Analysis **22** (2002) 89-131.
32. K. Deckelnick, C.M. Elliott and V. Styles *Analysis and computations for a model of quasi-static deformation of a thinning sheet arising in superplastic forming.* Euro. J. Appl. Math. **13** (2002) 403-429.
33. C.M. Elliott and V.M.Styles *Numerical analysis of a mean field model of superconducting vortices.* IMA Journal Num. Anal. **21** (2001) 1-51.
34. C. M. Elliott and S. Maier-Pape *Losing a graph with surface diffusion.* Hokkaido Math. Journal **30** (2001) 297-305.
35. P.C.Fife, J.Cahn and C.M. Elliott *A free boundary problem for diffusion induced grain boundary motion.* Interfaces and Free Boundaries **3** (2001) 291-336.
36. K.P.Deckelnick and C.M. Elliott *An existence and uniqueness result for a phase field model of diffusion induced grain boundary motion.* Proc. Roy. Soc. Edinburgh. Ser. **131A** (2001) 1323-1344.

37. K.P.Deckelnick, C.M. Elliott and V.M. Styles) *Numerical diffusion induced grain boundary motion*. Interfaces and Free Boundaries **3** (2001) 393-414.
38. \* A.J. Briggs, J.R. Claisse, C.M. Elliott and V. Styles) *Computation of vorticity evolution for a cylindrical Type II superconductor subject to parallel and transverse applied magnetic field*. Numerical Methods for Viscosity Solutions and Applications. M. Falcone, C. Makridakis (eds.) Singapore World Scientific Series: Adv. Math. Appl. Sciences **59** (2001) 77-94 .
39. \*C.M. Elliott and V.M. Styles *Numerical approximation of vortex density evolution in a superconductor*. Numerical Analysis 1999. Proceedings of Dundee Conference. ed. D.F.Griffiths , G.A.Watson. Boca Raton Chapman Hall CRC Press Research Notes Maths **420** (2000) 93-114.
40. C.M. Elliott and V.M.Styles *Flux pinning and boundary nucleation of vorticity in a mean field model of superconducting vortices*. Interfaces and Free Boundaries **2**(2000) 143-180.
41. K.P.Deckelnick and C.M. Elliott *Local and global existence results for anisotropic Hele-Shaw flows*. Proc. Roy. Soc. Edinburgh Sect. A,Math **129A** (1999) 265-294.
42. C.M. Elliott, A.R. Gardiner and R. Schätzle *Crystalline curvature flow in a variational setting*. Advances in Mathematical Sciences and Applications **8** (1998) 425-465.
43. Zhiming Chen, C.M. Elliott and Q. Tang *Justification of a two dimensional evolutionary Ginzburg-Landau superconductivity model*. RAIRO, Modelisation Math. Anal. Numr. M2AN **32** (1998) 25-50.
44. K.P.Deckelnick and C.M. Elliott *Finite element error bounds for a curve shrinking with prescribed normal contact to a fixed boundary*. IMA Journal Num. Anal. **18** (1998) 635-654.
45. Xinfu Chen, C.M. Elliott, A.R.Gardiner and J.J.Zhao *Convergence of numerical solutions to the Allen-Cahn equation*. Applicable Analysis **69** (1998) 47-56.
46. C.M. Elliott, R.Schatzle and B.Stoth *Viscosity solutions of a degenerate parabolic elliptic system arising in the mean field theory of superconductivity*. Arch. Rat. Mech. Anal. **145** (1998) 99-127.
47. C.M. Elliott and H. Garcke *Existence results for diffusive surface motion laws*. Advances in Mathematical Sciences and Applications **7** (1997)465-488.
48. C.M. Elliott and R. Schätzle *The limit of the fully anisotropic double obstacle Allen-Cahn equation in the non-smooth case*. SIAM J. Math. Anal. **28** (1997) . (1997) 273-303.
49. K. Deckelnick, C.M. Elliott and G. Richardson *Long time asymptotics for forced curvature flow with applications to the motion of a superconducting vortex*. Nonlinearity **10** (1997), 655-678.
50. C.M. Elliott and H. Garcke *Diffusional phase transitions in multicomponent systems with a concentration dependent mobility matrix*. Physica (D) **109**(1997) 242-256.
51. C.M. Elliott \**Approximation of curvature dependent interface motion*. State of the Art in Numerical Analysis (1997) ed. I.Duff, G.A.Watson. Clarendon Press, Oxford. 407-440.
52. F. Bai, C.M. Elliott, A.R. Gardiner, A. Spence and A. Stuart *The viscous Cahn-Hilliard equation Part I: Computations*. Nonlinearity **8** (1995) 131-160.
53. C. M. Elliott and H. Garcke *On the Cahn-Hilliard equation with degenerate mobility*.SIAM J. Math. Anal. **27** (1996) 404-423.
54. J.F. Blowey, M. Copetti and C.M. Elliott *Numerical analysis of multi-component phase separation*. I.M.A Journal of Numerical Analysis **16** (1996) 111-139.

55. C.M. Elliott and A. Stuart *The viscous Cahn-Hilliard equation. Part II, Analysis.* J. Differential Equations **128** (1996) 387-414.
56. J. Cahn, C.M. Elliott and A. Novick-Cohen *The Cahn-Hilliard equation with a concentration dependent mobility: motion by minus the Laplacian of the mean curvature.* Euro. J. Appl. Math. **7** (1996) 287-301.
57. C.M. Elliott and I. Kostin *Lower semicontinuity of a non-hyperbolic attractor for the viscous Cahn-Hilliard equation.* Nonlinearity **9** (1996) 687-702.
58. C.M. Elliott and R. Schätzle *The limit of the anisotropic double-obstacle Allen-Cahn equation.* Proc. Roy. Soc. Edin. **126** (1996) 1217-1234.
59. C. M. Elliott, M. Paolini and R. Schätzle *Sharp interface estimates for the fully anisotropic double obstacle Allen-Cahn equation.* Math. Models Meth. Appl. Sci. **8** (1996) 1103-1118.
60. C.M. Elliott and S. Larsson *A finite element model for the time dependent Joule heating problem.* Math. Comp. **64** (1995) 1433-1453.
61. M.K. Miller, J.M. Hyde, M.G. Hetherington, A. Cerezo, G.D.W. Smith and C.M. Elliott *Spinodal decomposition in Fe-Cr alloys: Experimental study at the atomic level and comparison with computer models-I, Introduction and methodology.* Act. Metall. Mater. **43** (1995) 3385-3401.
62. J.M. Hyde, M.K. Miller, M.G. Hetherington, A. Cerezo, G.D.W. Smith and C.M. Elliott *Spinodal decomposition in Fe-Cr alloys: Experimental study at the atomic level and comparison with computer models-II, Introduction and methodology. Development of domain size and composition amplitude.* Act. Metall. Mater. **43** (1995) 3403-3413.
63. J.M. Hyde, M.K. Miller, M.G. Hetherington, A. Cerezo, G.D.W. Smith and C.M. Elliott *Spinodal decomposition in Fe-Cr alloys: Experimental study at the atomic level and comparison with computer models-III, Development of Morphology.* Act. Metall. Mater. **43** (1995) 3415-3426.
64. C.M. Elliott, H. Matano, Q. Tang *Zeros of a complex Ginzburg-Landau order parameter with applications to superconductivity.* European Journal Appl. Math. **5** (1994) 431-448.
65. X. Chen, C.M. Elliott and Q. Tang *Shooting method for vortex solutions of a complex valued Ginzberg-Landau equation.* Proc. Roy. Soc. Edin. **124A** (1994) 1075-1088.
66. X. Chen and C.M. Elliott *Asymptotics for a parabolic double obstacle problem.* Proc. Roy. Soc. London Ser. A. **444** (1994) 429-445.
67. C.M. Elliott and Q. Tang *A dynamic contact problem in thermoelasticity.* Nonlinear Analysis T.M.A. **23** (1994) 883-898.
68. \*C.M. Elliott and A.R. Gardiner *One dimensional phase field computations.* Numerical Analysis 1993. Proceedings of Dundee Conference. ed. D.F. Griffiths and G.A. Watson. Longman Scientific and Technical, (1994) 56-74.
69. \*C.M. Elliott, A.R. Gardiner, I. Kostin and B. Lu *Mathematical and numerical analysis of a mean-field equation for the Ising model with Glauber dynamics.* Contemp. Math. **172** (1994) 217-241. [Chaotic Numerics ed. P.E. Kloeden and K.J. Palmer].
70. M. Copetti and C.M. Elliott *A one dimensional quasi-static contact problem in linear thermoelasticity.* European J. Applied Mathematics **4** (1993) 175-188.
71. C.M. Elliott and A. Stuart *The global dynamics of discrete semilinear parabolic equations.* SIAM J. Numer. Anal. **30** (1993) 1622-1663.

72. \*J.F. Blowey and C.M. Elliott *Curvature dependent phase boundary motion and parabolic double obstacle problems*. I.M.A. **47** (1993) 19-60, 'Degenerate Diffusions' ed. Wei-Ming Ni, L.A. Peletier and J.L. Vazquez. Springer Verlag, New York.
73. C.M. Elliott and S. Larsson *Error estimates with smooth and non-smooth data for a finite element method for the Cahn-Hilliard equation*. Math. Comp. **58** (1992) 603-630, S33-S36.
74. J.F. Blowey and C.M. Elliott *The Cahn-Hilliard gradient theory for phase separation with non-smooth free energy Part II: Numerical Analysis*. European J. Applied Mathematics **3** (1992) 147-179.
75. M. Copetti and C.M. Elliott *Numerical analysis of the Cahn-Hilliard equation with a logarithmic free energy*. Numer. Math. **63**, (1992) 39-65.
76. C.M. Elliott and A. Mikelic *Existence for the Cahn-Hilliard model of phase separation with a non-differentiable energy*. Annali Matematica Pura ed Applicata **CLVIII** (1991) 181-203.
77. J. W. Barrett and C. M. Elliott *Finite element approximation of a free boundary problem arising in the theory of liquid drops and plasma physics*. RAIRO, Modlisation Math. Anal. Numr. M2AN **25** (1991) 213-252.
78. C.M. Elliott, A. Mikelic and M. Shillor *Constrained anisotropic elastic materials in unilateral contact with or without friction*. Nonlinear Analysis T.M.A. **16** (1991) 155-181.
79. J.W. Barrett, R. Chakrabarti and C.M. Elliott *Finite element approximation of a rigid punch indenting a membrane*. I.M.A. Journal of Numerical Analysis. **11** (1991) 579-594.
80. J.F. Blowey and C.M. Elliott *The Cahn-Hilliard gradient theory for phase separation with non-smooth free energy Part 1: Mathematical Analysis*. European J. Applied Mathematics. **2** (1991) 233-280.
81. M. Copetti and C.M. Elliott *Kinetics of phase decomposition processes: numerical solutions to the Cahn-Hilliard equation*. Materials Science and Technology **6** (1990) 273-283.
82. C.M. Elliott, D. French, and F. Milner *A second order splitting method for the Cahn-Hilliard equation*. Num. Math. **54** (1989) 575-590.
83. J. W. Barrett and C. M. Elliott *Remarks on a free boundary problem arising in the theory of liquid drops and plasma physics*. Proc. Roy. Soc. Edin. **111A** (1989) 169-181.
84. C.M. Elliott and D. French *A nonconforming finite element method for the two dimensional Cahn-Hilliard equation*. SIAM J. Numer. Anal. **26** (1989) 884-903.
85. J. W. Barrett and C. M. Elliott *Finite element approximation of a plasma problem*. IMA Journal of Numerical Analysis **9** (1989) 443-464.
86. C.M. Elliott *The Cahn-Hilliard model for the kinetics of phase separation*. 'Mathematical Models for Phase Change Problems'. ed. J.F. Rodrigues, International Series of Numerical Mathematics **88**, Birkhauser Verlag (1989) 35-73.
87. J. W. Barrett and C. M. Elliott *Finite element approximation of elliptic equations with Neumann or Robin condition on a curved boundary*. I.M.A. Journal of Numerical Analysis **8** (1988) 321-342.
88. C.M. Elliott *Error analysis of the enthalpy method for the Stefan problem*. I.M.A. Journal of Numerical Analysis **7** (1987) 61-71.
89. J. W. Barrett and C. M. Elliott *Total flux estimates for a finite element approximation of elliptic equations*. I.M.A. Journal of Numerical Analysis **7** (1987) 129-148.

90. J. W. Barrett and C. M. Elliott *A practical finite element approximation of a semi-definite Neumann problem on a curved domain*. Num. Math. **51** (1987) 23-36.
91. J. W. Barrett and C. M. Elliott *Fitted and unfitted finite element methods for elliptic equations with smooth interfaces*. I.M.A. Journal of Numerical Analysis **7** (1987) 283-300.
92. C.M. Elliott and D. French *Numerical studies of the Cahn-Hilliard equation for phase separation*. I.M.A. Journal of Applied Mathematics **38** (1987) 97-128.
93. J. W. Barrett and C. M. Elliott *Total flux estimates for a finite element approximation of parabolic equations*. I.M.A. Journal of Numerical Analysis (1986) **6** 253-264.
94. J. W. Barrett and C. M. Elliott *Finite element approximation of the Dirichlet problem using the boundary penalty method*. Numer. Math. **49** (1986) 343-366.
95. C.M. Elliott and Zheng Songmu *On the Cahn Hilliard equation*. Arch. Rat. Mech. Anal. **96**(1986) 339-357.
96. C.M. Elliott M.A.Herrero, J.R. King and J.R.Ockendon *The mesa problem:diffusion patterns for  $u_t = \nabla(u\nabla u)$  as  $m \rightarrow +\infty$* . I.M.A. J. Appl. Math. **37** (1986) 147-154.
97. E. Di Benedetto, C.M. Elliott and A. Friedman *The free boundary of a flow in a porous body heated from its boundary*. Nonlinear Analysis T.M.A.**10** (1986) 879-900.
98. C.M. Elliott and A. Friedman *The contact set of a rigid body partially supported by a membrane*. Nonlinear Analysis T.M.A. **10** (1986) 251-276.
99. C.M. Elliott and B. Count *Analysis of a wave power device*. Industrial Numerical Analysis (1986) (see [2]) 124-142.
100. E. Di Benedetto and C. M. Elliott *Existence for a problem in ground freezing*. Nonlinear Analysis T.M.A. **9** (1985) 953-967.
101. J. W. Barrett and C. M. Elliott *Fixed mesh finite element approximations to a free boundary problem for an elliptic equation with an oblique derivative boundary condition*. Comp. Math. with Appls. **11** (1985) 335-345.
102. C.M. Elliott *On the convergence of a one-step method for the solution of an ordinary differential inclusion*. I.M.A. Journal of Numerical Analysis **5** (1985) 3-27.
103. C.M. Elliott and A. Friedman *Analysis of a model of percolation in a gently sloping sandbank*. SIAM J. Math. Anal. **16** (1985) 941-954.
104. C.M. Elliott *The Stefan problem with a non-monotone constitutive relation*. I.M.A. J. Appl. Math. **35** (1985) 257-264.
105. J.W. Barrett and C. M. Elliott *A finite element method for solving elliptic equations with Neumann data on a curved boundary using unfitted meshes*. I.M.A. Journal of Numerical Analysis **4** (1984) 309-325.
106. C.M. Elliott and V. Janovsky *An error estimate for a finite element approximation of an elliptic variational inequality formulation of a Hele-Shaw moving boundary problem*. I.M.A. Journal of Numerical Analysis **3** (1983) 1-9.
107. J.M. Aitchison, C. M. Elliott and J.R. Ockendon *Percolation in gently sloping beaches*. I.M.A. Journal of Applied Mathematics **30** (1983) 269-287.
108. C. M. Elliott *On the finite element approximation of an elliptic variational inequality arising from an implicit time discretisation of the Stefan problem*. I.M.A. Journal of Numerical Analysis **1** (1981) 115-125.

109. C.M. Elliott and V. Janovsky *A variational inequality approach to Hele-Shaw flow with a moving boundary*. Proceedings of the Royal Society of Edinburgh **88A** (1981) 93 -107.
110. C.M. Elliott and S. McKee *On the numerical solution of an integrodifferential equation arising from wave power hydraulics*. B.I.T. **21** (1981) 318-325.
111. C. M. Elliott *On a variational inequality formulation of an electrochemical machining moving boundary problem and its approximation by the finite element method*. J. Inst. Math. Applics. **25** (1980) 121-131.

#### **Books**

112. C. M. Elliott and J.R. Ockendon *Weak and variational methods for moving boundary problems*. Pitman, London 213 pp (1982).
113. C. M. Elliott and S. McKee, editors *Industrial Numerical Analysis*. Clarendon Press, Oxford 256pp (1986).

#### **Research Articles in Conference Proceedings**

114. C.M. Elliott and A.R. Gardiner *Numerical analysis of the phase field equations and phase boundary motion*. (1994) Computational Techniques and Applications: CTAC 93 ed. D. Stewart, H. Gardener and D. Singleton. World Scientific, 12-25.
115. J.F. Blowey C.M. Elliott *A phase field model with a double obstacle potential*. (1994)'Motion by mean curvature', ed. G. Buttazzo and A. Visintin, de Gruyter, 1-22.
116. C. M. Elliott and Songmu Zheng *Global existence and stability of solutions to the phase-field equations* Free Boundary Value Problems (ed. K. K. Hoffman and J. Sprekels) Int. Ser. Num. Math. Birkhauser Verlag, Basel **95** (1990) 46-58
117. C.M. Elliott and A. Mikelic *Some numerical experiments with the Cahn-Hilliard phase separation model with non-differentiable energy*. Pitman Research Notes in Mathematics **186** 589-598 Longman (1990).
118. J. W. Barrett and C. M. Elliott *Finite element approximation of a free boundary problem related to plasma physics*. Pitman Research Notes in Mathematics **186** 567-573 Longman (1990).
119. C.M. Elliott *A variational inequality formulation of a steady state electrochemical machining free boundary problem*. Free Boundary Problems, Theory & Applications, (eds. A. Fasano and M. Primicerio), Pitman, London, (1983).
120. C.M. Elliott and C.J. Mason *A weak solution method for a class of free boundary problems*. Numerical Treatment of Free Boundary Value Problems (eds. J. Albrecht, L. Collatz, and K.H. Hoffman), I.S.N.M. Birkhauser Verlag, Basel (1982) 66-72.
121. J. W. Barrett and C. M. Elliott *A finite element method on a fixed mesh for the Stefan problem with convection in a saturated porous medium*. Numerical Methods for Fluid Dynamics (eds. K.W. Morton and M.J. Baines) Academic Press, London (1982) 389-409.
122. C.M. Elliott and V. Janovsky *A finite element discretisation of a variational inequality formulation of a Hele-Shaw moving boundary problem*. MAFELAP 1978, ed. J.R. Whiteman, (1979) 97-106.
123. C. M. Elliott *Moving boundary problems and linear complementarity*. Numerische Behandlung von Differential-Gleichungen etc., ed. Albrecht, Collatz and Hammerlin, ISNM**39** (1978).

#### **Miscellaneous**

124. Charles M. Elliott, Michael Hinze and Vanessa Styles (Eds.). Control of Free Boundaries Abstracts from the workshop held February 11–17, 2007. Oberwolfach Reports **8-2007** pp447–486 <http://www.mfo.de/>
125. Charlie Elliott and Vanessa Styles *Mathematical approaches to free boundary and interface problems* Extended abstract in Control of Free Boundaries Abstracts from the workshop held February 11–17, 2007. Oberwolfach Reports **8-2007** pp 458–459 Organised by Charles M. Elliott, Michael Hinze and Vanessa Styles
126. S. J. Chapman(ed.); C. M. Elliott(ed.); A. K. Head(ed.); S. D. Howison; F. M. Leslie; J. R. Ockendon *Vortices, dislocations and line singularities in partial differential equations*. Philos. Trans. R. Soc. Lond., Ser. A 355, No.1731, 1945-2072 (1997).
127. C. M. Elliott *Finite elements on evolving surfaces* Mathematisches Forschungsinstitut Oberwolfach. Extended Abstract in: Trends in Mathematical Imaging and Surface Processing Report **3-2007** pp 165–170 Organised by Vicent Caselles, Gerhard Dziuk, Martin Rumpf and Peter Schroder January 21st – January 27th, 2007 <http://www.mfo.de/cgi-bin/path?programme>

### Research Reports

128. K.P. Deckelnick and C.M. Elliott *Propagation of eikonal-curvature fronts in two dimensional inhomogeneous and striped media*. CMAIA Report 1997-09
129. C.M. Elliott, A.R. Gardiner and T. Kühn *Generalised double obstacle phase field approximation of the anisotropic mean curvature flow*. CMAIA Report 1996-17
130. C. M. Elliott and A.R. Gardiner *Double obstacle phase field computations of dendritic growth*. CMAIA Report 1996-19
131. C. M. Elliott and S. Luckhaus *A generalised diffusion equation for phase separation of a multi-component mixture with interfacial free energy*. SFB756 University of Bonn Preprint 195 (1991)