1 Curriculum vitae di Mauro Fabrizio

Dipartimento di Matematica, Università di Bologna.

Laurea in Fisica, Università di Bologna (29 Novembre 1965)

Positioni:

-. Assistente di Meccanica Razionale. Instituto di Matematica dell'Università di Ferrara e Bologna (12.1.67 - 12.31.75);

-. Professore ordinario di Meccanica Razionale nella Facolta' di Ingegneria dell'Università di Salerno (1.01.1976 - 30.10.1977), Ferrara (1.11.1977 - 30.10.1983) e Bologna (1.11.1983 - 31.10.2011)

-. 1972. Premio Bonavera della "Accademia delle Scienze di Torino".

-. Direttore dell'Istituto di Matematica della Università di Ferrara (11.1.1981 - 10.31.1983)

-. Direttore del Dipartimento di Matematica della Università di Bologna (12.1.1985 - 10.31.1991).

-. Membro del CdA della Università di Bologna (1999-2002), (2010-2011)

-. Membro del Consiglio Scientifico del Gruppo Nazionale di Fisica Matematica (GNFM) del CNR (1980-1997) e INdAM (2004-2012).

-. Professore visitatore della Università del Minnesota, Università di Bergen, DIT (Dublin Institute of Technology), Academia delle Science di Kiev, Dublin City University, LNCC di Rio de Janeiro, Università di Durham.

1.1 Attività scientifica

1.1.1 Campi di interesse:

-. Transizioni di fase del primo e secondo ordine.
  -. Modelli matematici nella termomeccanica dei continui.
  -. Materiali con fading memory.
  -. Equazione alle derivate parziali per sistemi con memoria.
  -. Electromagnetism of continuous media.

1.1.2 Chairman or Co-Chairman di Conferenze Internazionali:

Mathematical Problems in the Thermodynamics of Continuous Systems. Cortona (1996).

New progress in Mathematical Physics from Dario Graffi . Bologna (2000).

Mathematical Models and Methods for Smart Materials. Cortona (2001).

Smart Materials and Memory. Models and Analytic Problems. Cortona (2003).

New Trends in Fluid and Solid Models. Vietri-SA (2009)

1.1.3 Membro dell'editorial board o Associate editor dei Journals:

-. Nonlinear Analysis: Theory, Methods and Applications. Published by Elsevier.

-. Mathematical Models and Methods in Applied Sciences. World Scientific.

-. Meccanica, Springer Verlag.

-. Nonlinear Oscillations, Springer Verlag.

-. Nonlinear Dynamics and Systems Theory, Academic Inc. Press.

-. Bollettino Unione Matematica Italiana, Sezione A, La Matematica nella Cultura e nella Societ a, Zanichelli Ed. Scienti c publications:

1.1.4 Autore di Libri

La Meccanica Razionale e i suoi metodi matematici. Zanichelli. Bologna. 1989. pp. 384 + viii.

Mathematical Problems in Linear Viscoelasticity. SIAM. Philadelphia. 1992. (with A. Morro), pp. 203 + ix.

Introduzione alla Meccanica Razionale e ai suoi Metodi Matematici. Zanichelli. Bologna. 1993, pp. 500 + xi.

Elementi di Meccanica Classica. Zanichelli. Bologna. 2003, pp. 255 + vii.

Electromagnetism of Continuous Media. Oxford University Press. Oxford. 2003. pp. 668 + xvii.

Thermodynamics of Materials with Memory. Theory and Applications. Springer. New York. 2011. pp. 574 + xv.

1.1.5 Editore di libri

Mathematical Models and Methods for Smart Materials. World Scientific. 2002.

Topics in the mathematical modelling of smart materials. Special issues of Mathematical and Computer Modelling. Pergamon Press. 2001

New Trends in Fluid and Solid Models. World Scientific. 2009.

1.2 Pubblicazioni

174. On the asymptotic behavior of the quasi-static problem for a linear viscoelastic fluid. Applied Mathematics Letters 25 (10). (2012) 1464-1469. With Lazzari, B., Nibbi, R

173. Plasticity, internal structure and phase field model. Mechanics Research Communications 43 , (2012) 29-33

172. Second gradient viscoelastic fluids: dissipation principle and free energies. Meccanica , (2012) 1-10, With Amendola G., Golden J. M.

171. On the asymptotic behavior of a linear viscoelastic fluid. Mathematical Methods in the Applied Sciences 35 (7), (2012) 769-775. With Lazzari, B., Nibbi, R

170. Thermodynamics of Materials with Memory. Theory and Applications. Springer. New York. 2012. pp. 574 + xv. With Amendola G., Golden J. M.

169. A first order phase transition with non-constant density. Journal of Mathematical Analysis and Applications 384 (2) (2011), pp. 561-577. With Bonetti E., Fr emond, M.

168. Thermodynamics of a non-simple heat conductor with memory. Quarterly of Applied Mathematics 69 (4) (2011), 787-806. With Amendola G., Golden M.

167. Hysteresis loops for para-ferromagnetic phase transitions. Zeitschrift fur Angewandte Mathematik und Physik 62 (6) (2011), 1013-1026. With Matarazzo G., Pecoraro M.

166. Thermodynamics of non-local materials: Extra fluxes and internal powers. Continuum Mechanics and Thermodynamics 23 (6) (2011), pp. 509-525. With Lazzari B., Nibbi R.

165. A phase eld model for a solid-liquid phase transition. Mechanics Research Communications 38 (7) (2011), 477-480. With Ciarletta M., Tibullo V.

164. Phase separation in quasi-incompressible Cahn-Hilliard fluids. European Journal of Mechanics, B/Fluids 30 (3) (2011), 281-287.

163. A mathematical model for solid-liquid and liquid-vapor phase transitions. AIP Conference Proceedings 1329 (2011), 109-123. With Berti V.

162. Free energies for a rigid heat conductor with memory. IMA J. Appl. Math. (Institute of Mathematics and Its Applications) 75 (6) (2010), 833-856. With Amendola G., Golden J.M.

161. From an interview with Gianfranco Capriz. (Italian) Mat. Soc. Cult. Riv. Unione Mat. Ital. (I) 3 (2010), no. 3, 431{459.

160. On the energy decay for a thermoelastic contact problem involving heat transfer. Journal of Thermal Stresses 33 (11) (2010), 1049-1065. With Bonfanti G., M., Rivera J.M., Naso M.G.

159. Entropy equation and absolute temperature. Annali dell'Universita di Ferrara 56 (2) (2010), 217-229. With Amendola G., Ban C.

158. Minimum free energy in the frequency domain for a heat conductor with memory. Discrete and Continuous Dynamical Systems - Series B 14 (3) (2010), 793-816. With Amendola G., Golden J.M.

157. An optimal control problem for a singular system of solid-liquid phase transition. Numerical Functional Analysis and Optimization 31 (9) (2010), 989-1022. With Favini A., Marinoschi G.

156. A Ginzburg-Landau model for the phase transition in Helium II. Zeitschrift fur Angewandte Mathematik und Physik 61 (2) (2010), 329-340.

155. A New Approach to Equations with Memory. Archive for Rational Mechanics and Analysis 198 (1) (2010), 189-232. With Giorgi C., Pata V.

154. Hysteresis and Phase Transitions for 1D and 3D Models in Shape Memory Alloys. J. Math. Phys. 51 (6) (2010), art. no. 007006, 1-13. In coll. Berti V., Grandi D.

153. Phase transitions in shape memory alloys: A non-isothermal Ginzburg-Landau model. Physica D: Nonlinear Phenomena 239 (1-2) (2010), 95-102. With Berti V., Grandi D.

152. A non isothermal Ginzburg-Landau model for phase transitions in shape memory alloys. Meccanica 45 (6) (2010), 797-807. With Daghia E. e Grandi D.

151. Thermal convection on a simple fluid with fading memory. J. Math. Anal. Appl. 366 (2010), no. 2, 444 -459. With Amendola G.

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150. On the minimum free energy for a rigid heat conductor with memory effects Nonlinear Dynamics and Systems Theory 9 (4) (2009), 333-360. With Amendola G., Franchi F.

149. Free energies and asymptotic behaviour for incompressible viscoelastic fluids. Appl. Anal. 88 (2009), no. 6, 789f805. With Amendola G., Golden J. M., Lazzari, B.

148. A thermodynamic approach to ferromagnetism and phase transitions. Internat. J. Engrg. Sci. 47 (2009), no. 9, 821-839. With Giorgi C., Morro A.

147. A three-dimensional phase transition model in ferromagnetism: existence and uniqueness. J. Math. Anal. Appl. 355 (2009), no. 2, 661-674. With Berti, V., Giorgi, C.

146. Existence and boundedness of solutions for a singular phase eld system. J. Di erential Equations 246 (2009), no. 8, 3260-3295. With Bonetti E., Colli, P., Gilardi G.

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144. Minimum free energy for an electromagnetic conductor with memory. Math. Methods Appl. Sci. 32 (2009), no. 1, 77-111. With G. Amendola e J.M. Golden.

143. On a doubly nonlinear phase- eld model for rst-order transitions with memory. Di erential Integral Equations 21 (2008), no. 3-4, 325-350. With V. Berti e C. Giorgi.

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141. Ice-water and liquid-vapor phase transitions by a Ginzburg-Landau model. J. Math. Phys. 49 (2008), no. 10, 102902, 13 pp.

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134. A non-isothermal Ginzburg-Landau model in superconductivity: existence, uniqueness and asymptotic behaviour. Nonlinear Anal. 66, No. 11, 2565-2578, (2007). With Berti, Valeria.

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132. Maximum recoverable work for incompressible viscoelastic fluids and application to a discrete spectrum model. Di erential Integral Equations 20, No. 4, 445-466, (2007). With Amendola, G. and Goldel M.

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127. A thermodynamic approach to non-isothermal phase- eld evolution in continuum physics. Physica D 214, No. 2, 144-56 (2006). With Giorgi, Claudio; Morro, Angelo.

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123. The concept of a minimal state in viscoelasticity: New free energies and applications to PDEs. Arch. Ration. Mech. Anal. 181, No. 1, 43-96 (2006). With Deseri, Luca; Golden, Murrough.

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120. Free energies in the materials with fading memory and applications to PDEs. "WASCOM 2003"{2th Conference onWaves and Stability in ContinuousMedia, 172{84, World Sci. Publishing, River Edge, NJ, 2004.

119. Some qualitative results on the dynamic viscoelasticity of the Reissner-Mindlin plate model. Quart. J. Mech. Appl. Math. 57 (2004), no. 1, 59{78. (with S. Chirita)

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115. Obituary [Giorgio Gentili]. Mathematical models and methods for smart materials (Cortona, 2001), ix{xi, Ser. Adv. Math. Appl. Sci., 62, World Sci. Publishing, River Edge, NJ, 2002.

114. Electromagnetism of Continuous Media. Mathematical Modelling and Applications, Oxford University Press (2003). xviii + 668 pp. (with A. Morro)

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112. Gentili's norm on the process and state spaces in linear viscoelasticity, Mathematical Models and Methods for Smart Materials (Cortona (Italy), 25-29 June (2001) a cura di M. Fabrizio, B. Lazzari, A. Morro pp. 235-246, World Scientific, New Jersey, 2002

111. A non-stationary model in superconductivity. Mathematical Models and Methods for Smart Materials (Cortona (Italy), 25-29 June 2001) a cura di M. Fabrizio, B. Lazzari, A. Morro pp. 251-263, World Scienti c, New Jersey, 2002

110. Maximum and minimum free energies for a linear viscoelastic material, Q APPL MATH, 60, pp. 341-381 (2002) (With J. Murrough Golden)

109. Elementi di Meccanica Classica, Zanichelli, Bologna, 2002, pp. 1-255.

108. Balance equations in two- fluid models of helium II. Mathematical Models and Methods for Smart Materials (Cortona (Italy), 25-29 June 2001) a cura di M. Fabrizio, B. Lazzari, A. Morro pp. 235-246, World Scienti c, New Jersey, 2002 (With Angelo Morro)

107. Asymptotic decay for some di erential systems with fading memory. Applicable Analysis, 81, n. 6, pp. 1245-264 (2002) With S. Polidoro.

106. The minimum free energy for a class of compressible viscoelastic fluids. Adv. Di erential Equations 7 (2002), no. 3, 319{342. with G. Gentili, e M. Golden).

105. Thermodynamics of non local- electromagnetism and superconductivity. Math. Meth. Mod. Appl. Sc., 13 (2003), 945-969 (With B. Lazzari e A. Morro)

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103. Maximum and Minimum Free Energies and the Concept of a Minimal State, Rendiconti di Matematica, (VII) 20, (2000), 131-65 (Volume in Memoria

di G. Fichera) (with M. Golden)

102. Maximum and minimum free energies for a linear viscoelasic material, Quart. Appl. Math. 60, (2002) 341-381. (with M. Golden).

101. Some Spatial Decay Estimates in Time-Dependent Stokes Slow Flows, Applicable Analisis, 77, (2001), 211-231. (with S. Chirità e M. Ciarletta).

100. Asymptotic behaviour of a thermoelastic plate of weakly hyperbolic type, Di erential and Integral Equations, 13, (2000), 1347-370. (with B. Lazzari e J. Munoz Rivera).

99. Asymptotic behaviour of a thermoelastic plate of weakly hyperbolic type, Diff. Integral Eq., 13, (2000), 1347-370. with B. Lazzari e J. Mu˜noz Rivera.

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97. Superconductivity and gauge invariance of the Ginzburg-Landau equations, Internat. J. Engrg. Sci, 37, (1999) 1487-494.

96. Dissipativity and irreversibility of electromagnetic systems with memory, Math, Mod. Meth Appl. Sc., 10, (2000), 217-246. (With con A. Morro)

95. On the fading memory principle, In memoria di G. Fichera. Atti Convegno Lincei "Interactions between Analysis and Mechanics". Roma, 1999.

94. Asymptotic behavior in linear thermoelasticity, J. Math. Anal. Appl., 232, (1999), 138-65. (with B. Lazzari e J. Monoz Rivera).

93. An inverse problem in viscoelasticity, Sem. Mat. Fis. Univ. Modena., Suppl. al vol. XLVI, (1998) 697-708. In onore del 70 compleanno del prof. C. Vinti. (with A. Hanyga).

92. On rigid linear heat conductors with memory, Internat. J. Engrg. Sci, 36, (1998), 765-782.(With con G. Gentili & D. Reynolds)

91. On thermodynamics of some phase change models, Atti del seminario matematico e sico di Milano, LXVI, (1998), 43-62. (With con G. Gentili)

90. A non-local thermodynamic theory of superconductivity, Math. Mod. Math Appl. Sc., 7, no. 3 (1997), 345-362 (With con G. Gentili e B. Lazzari).

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88. Thermodynamics of electromagnetic systems with memory, Non equil. thermod., 22 (1997), 110-28 (With con A. Morro)

87. Dissipation properties of complex systems, Open Systems & Information Dynamics. 5, (1998) 149-68.

86. Free energy and stability for heat conductors with linear memory, Rend. Circolo Mat. Palermo, Serie 2, Suppl. 45 (1996), 221-229. (With con G. Gentili & D. Reynolds)

85. A non local thermodynamic theory of superconductivity. Symposium on: Gravitation, Electromagnetism and Geometrical Structures, Ed. G. Ferrarese. Pitagora, Bologna. 1996. (with G. Gentili e B. Lazzari)

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83. The domain of dependence inequality and asymptotic stability for a viscoelastic solid, in corso di stampa (with B. Lazzari)

82. Internal dissipation, relaxation property, and free enegies in materials with memory, J. Elasticity, 40, (1995), 107-22. (With con A. Morro e C. Giorgi).

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77. Sul principio dell'azione ereditaria, Rendiconti dell'Accademia dei XL, Memorie di Matematica. 112 , 18, (1994), 133-41.

76. Asymptotic stability for an electromagnetic system with fading memory boundary condition, Waves and Stability in Continuous Media. Ed. S. Rionero & T. Ruggeri. World Sc. Singapore. 1994.

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69. Commemorazione del prof. Dario Gra . Atti Acc. Sc. Ist. Bologna, s. XIV- Tomo IX, vol. II, (1993), 15-7.

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61. Propriet a di stabilit a per sistemi con memoria. Atti Accademia Peloritana dei Pericolanti, 68 , (1990), 209-225. Volume in onore di G. Carini.

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58. Phenomenological theories of superconductivity and superfluidity. "Macroscopic Theories of Superfluids. Ed. G. Grioli. Cambridge University Press. Cambridge, 1991.

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52. On the stability of a linear viscoelastic solid system. Arch. Rational Mech.Anal., 116, (1991), 139-52. (with B. Lazzari)

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49. A new theory for the thermodynamics of biological systems. Atti del V Convegno "Onde e Stabilit a" Taormina, 1987.

48. Stability in Linear Viscoelasticity, Italian-Polish Meeting, Pitagora, Bologna, 1987.

47. The thermodynamic properties of biological systems. Symp.Kinetic Theory and Extended Thermodynamics. I. Muller, T. Ruggeri. Pitagora, Bologna 1987.

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41. Sul problema di Fichera in viscoelasticit a lineare, Atti del IV Convegno "Onde e Stabillita", Bari, 1989.

40. An uniqueness theorem for weak solutions of symmetric non linear hyperbolic systems, (with E. Santi). J.Di .Equation. 75, (1988), 43-52.

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33. La superconduttivita come teoria non locale, Rend.del Sem.Mat. e Fis. di Milano, 53, 1983 (with C.Giorgi).

32. Mixed Problems for linear Hyperbolic Equation with unbounded coefficients. Atti del III Congresso Onde e Stabilit a - Cosenza 1983 (with A. Hanyga).

31. Existence theorems for linear hyperbolic systems with unbounded coefficients, Ann.Univ.Ferrara, XXVIII, 1982 (with A. Hanyga).

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