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BOOKS

7. F. Mainardi: "Fractional Calculus and Waves in Linear Viscoelasticity", World Scientific Singapore (2022) 2 Edition in press [First edition (2010)] See:
<https://www.worldscientific.com/worldscibooks/10.1142/p926#t=aboutBook>

6. L.Beghin, F. Mainardi and R. Garrappa (Editors): "Nonlocal and Fractional Operators", Springer Nature Switzerland, pp. vi+ 308 (2021).SEMA-SIMAI Series No 26, Editors-in-chief: L. Formaggia, P. Pedregal. See
<https://link.springer.com/book/10.1007/978-3-030-69236-0>

5. R. Gorenflo, A.A Kilbas, F. Mainardi and S.V. Rogosin: "Mittag-Leffler Functions. Related Topics and Applications", Springer, Berlin (2020), Second Edition. pp. XVI + 540, ISBN 978-3-662-61549-2, Springer Monographs in Mathematics. See: <https://www.springer.com/it/book/9783662615492>

4. S.V. Rogosin and F. Mainardi "The Legacy of A.Ya. Khintchine's Work in Probability Theory", Cambridge Scientific Publ. Cambridge (2011), pp 275.
ISBN 978-1-904868-65-1. See: <http://www.cambridgescientificpublishers.com/>

3. A Guran, A. De Hoop, D. Guicking and F. Mainardi (Editors): Acoustic Interactions with Submerged Elastic Structures: Part III: Acoustic Propagation and Scattering, Wavelets and Time Frequency Analysis (A Herbert Überall Festschrift Volume, World Scientific, Singapore (2001), pp. 422, ISBN 981-02-2950-X. [Vol. 5 on the Series B on Stability, Vibration and Control of Systems, Series Editors: Ardesir Guran & Daniel J. Inman]

2. A. Carpinteri and F. Mainardi (Editors): "Fractals and Fractional Calculus in Continuum Mechanics", published by Springer Wien New York (1997) in the series of "CISM Courses and Lectures" (No 378), pp. 348, ISBN 3-211-82913-X
This book contains selected lectures held at the CISM Course organized by the Editors, held in Udine (Italy) from 23 to 27 September 1996, entitled "Scaling Laws and Fractality in Continuum Mechanics", including the lessons by Gorenflo-Mainardi, Mainardi, Gorenflo.

1.F. Mainardi (Editor): "Wave Propagation in Viscoelastic Media", Pitman, London (1982) in the series of "Pitman Research Notes in Mathematics" (No 52), pp. 272, ISBN 0-273-08511-5. It contains selected lectures given at the European Mechanics Colloquium (Euromech 127), held in Taormina (Sicily, Italy) on April 1980.

PAPERS

The impact of papers and books can be derived in GOOGLE-SCHOLAR where one gets the citations: <http://scholar.google.com/scholar?hl=en&lr=&q=f+mainardi>

One can recognize that several papers have more than 100 citations.

A number of papers are freely available as E-PRINTS being posted at
<http://arxiv.org/find/all/1/all:+AND+Francesco+Mainardi/0/1/0/all/0/1>

N.B. Since 1 November 2013 Francesco Mainardi is retired Professor from the University of Bologna. For a national law of Italian Rectors, retired professors cannot insert their publications in the data base of their Universities but only in the data base of MIUR (Italian Ministry of University and Research) and, unless they get teaching contracts, they are deleted from the web site of their Universities. For Prof. Mainardi the following web site was still accessible up to January 2019 <https://www.unibo.it/sitoweb/francesco.mainardi> when he stopped to be a contract professor of Mathematical Physics for the Master degree in Physics.

(2022) -> (2021)	[214] -> [207]	p. 3
(2020) -> (2019)	[206] -> [198]	p. 4
(2019) -> (2018)	[197] -> [190]	p. 5
(2018) -> (2017)	[189] -> [182]	p. 6
(2017) -> (2017)	[181] -> [174]	p. 7
(2017) -> (2015)	[173] -> [167]	p. 8
(2015) -> (2014)	[166] -> [160]	p. 9
(2013) -> (2012)	[159] -> [151]	p. 10
(2011) -> (2010)	[150] -> [142]	p. 11
(2009) -> (2009)	[141] -> [135]	p. 12
(2008) -> (2007)	[134] -> [126]	p. 13
(2007) -> (2005)	[125] -> [118]	p. 14
(2005) -> (2004)	[117] -> [109]	p. 15
(2004) -> (2002)	[108] -> [100]	p. 16
(2002) -> (2002)	[99] -> [92]	p. 17
(2002) -> (2000)	[91] -> [83]	p. 18
(2000) -> (1999)	[82] -> [74]	p. 19
(1999) -> (1998)	[73] -> [68]	p. 20
(1998) -> (1997)	[67] -> [62]	p. 21
(1996) -> (1995)	[61] -> [53]	p. 23
(1995) -> (1993)	[52] -> [44]	p. 22
(1993) -> (1988)	[43] -> [34]	p. 24
(1987) -> (1983)	[33] -> [23]	p. 25
(1982) -> (1977)	[22] -> [12]	p. 26
(1976) -> (1971)	[11] -> [1]	p. 27
(1967) -> (1966)	[0] -> [-1]	p. 28

- [214] F. Mainardi, R.B. Paris and A. Consiglio:
 “Wright functions of the second kind and Whittaker functions”,
Fract. Calc. Appl. Anal. (SPRINGER) Vol.25 (2022), 858-895
 DOI:10.10007/s13540-022-00042-2 E-print arXiv: 2111.03510 V4[*Math.GM*]
- [213] A. Consiglio and F. Mainardi:
 “Fractional diffusive waves in the Cauchy and Signalling problems”,
 In L. Beghin, F. Mainardi and R. Garrappa (Editors).
 “Nonlocal and Fractional Operators: Theory and Applications to Physics, Probability and Numerical Analysis”, Springer Nature Switzerland, pp. 133-153 (2021).
 SEMA-SIMAI Springer Series No 26, Editors-in-chief: L. Formaggia, P. Pedregal.
- [212] A. Apelblat, A. Consiglio and F. Mainardi:
 “The Bateman functions revisited after 90 years – A survey of old and new results”,
Mathematics (MDPI), Vol 9 (2021), 1273/1-27; DOI: 10.3390/math9111273
 E-print arXiv: 2104.08596
- [211] R. Garrappa, A. Giusti and F. Mainardi:
 “Variable-order fractional calculus: a change of perspective”
Commun. Nonlinear Sci. Numer. Simulat., Vol. 102 (2021), 105904/1-16.
 DOI:10.1016/j.cnsns.2021.105904 E-print arXiv:2102.09932 [*math.CA*]
- [210] R. Garra and F. Mainardi:
 “Some aspects of Wright functions in fractional differential equations”
Reports on Mathematical Physics (Poland), Vol. 87, No 2, April 2021, pp. 265-273.
 DOI:10.1016/S0034-4877(21)00029-X E-print arXiv:2007.13340
- [209] A.E. Ricci, D. Caratelli and F. Mainardi:
 “Tricomi’s method for the Laplace transform and orthogonal polynomials”
Symmetry (MDPI), Vol 13 (2021), pp . 589/1-18.
<https://doi.org/10.3390/sym13040589>
 It belongs to the Special Issue **Special Functions and Polynomials**
- [208] A. Apelblat and F. Mainardi:
 “Applications of the Efros theorem to the function represented by the inverse Laplace transform of $s^{-\mu} \exp(-s^\nu)$ ”.
Symmetry (MDPI), Vol. 13 (2021), pp. 354/1-15
 DOI: 10.3390/sym13020354; E-print arXiv:2012.07068 [*math.CA*]
- [207] R. Paris, A. Consiglio and F. Mainardi,
 “On the asymptotics of Wright functions of the second kind”,
Frac. Calc. Applied Analysis (FCAA) Vol 24, No 1, pp. 54-72 (2021)
 DOI: 10.1515/fca-2021-0003 E-print arXiv:2103.04284

- [206] F. Mainardi: “Why the Mittag-Leffler function can be considered the Queen Function of the Fractional Calculus?”, Entropy (MDPI) Vol. 22 (2020) 1359/1-29; DOI:10.3390/e2212135. Special Issue: Fractional Calculus and the Future of Science edited by B. West. Updated version in E-print arXiv:2101.03894, pp.52
- [205] A. Apelblat and F. Mainardi:
“Applications of the Efros theorem to the Wright functions of the second kind and other results”, Lecture Notes of TICMI (TBILISI INTERNATIONAL CENTRE OF MATHEMATICS AND INFORMATICS) Vol. 21, 2020, pp. 9-28.
Special issue edited by P.E. Ricci, dedicated to Prof. George Jaiani on the occasion of his 75th birthday, Tbilisi University Press, ISSN 1512-0511.
- [204] F. Mainardi and A. Consiglio:
“The Wright functions of the second kind in Mathematical Physics”, Mathematics (MDPI), Vol 8 N. 6 (2020), pp 884/1-26
DOI: 10.3390/math,8060884; E-print arXiv:2007.02098 [math.GM]
- [203] F. Mainardi and A. Consiglio:
“The Pioneers of the Mittag-Leffler Functions in Dielectrical and Mechanical Relaxation Processes”, WSEAS Transactions on Mathematics, Vol 19 (2020), pp. 289–300.
DOI: 10.37394/23206.2020.19.29 E-print arXiv:2006.07653 [math.GM]
- [202] F. Mainardi: “A Tutorial on the Basic Special Functions of Fractional Calculus”, WSEAS Transactions on Mathematics, Vol 19 (2020), pp. 74–98.
DOI: 10.37394/23206.2020.19.8 E-print arXiv:2003.12385 [math.GM]
- [201] A. Giusti, I. Colombaro, R. Garra, R. Garrappa, F. Polito, M. Popolizio and F. Mainardi: “A Guide to Prabhakar functions and operators”, Fract. Calc. Appl. Anal. Vol. 23, No 1 (2020), pp. 9–54 ; DOI: 10.1515/fca-2020-0002 E-print arXiv:2002.10978 [math.CA]
- [200] A. Giusti and F. Mainardi: Editorial on Special Issue
“Advanced Mathematical Methods: Theory and Applications”, Mathematics (MDPI) Vol. 8, 107 pp.. Published on line 9 January 2020.
DOI: 10.3390/math8010107 Guest Editors: F. Mainardi and A. Giusti.
- [199] R. Garra, F. Giraldi and F. Mainardi:
“Wright-type generalized coherent states”.
WSEAS`Transactions on Mathematics, Vol 18, Art. 52 (2019) 428-431.
- [198] A. Consiglio, Yu Luchko and F. Mainardi:
”Some notes on the Wright functions in probability theory”
WSEAS Transactions on Mathematics, Vol 18 (2019), pp. 389–393.

- [197] A. Consiglio and F. Mainardi:
 “On the evolution of fractional diffusive waves”,
Ricerche di Matematica, Vol. 70 (2021), pp. 21-33.
 Published on line 06 December 2019, pp 13. DOI: 10.1007/s11587-019-00476-6
 E-print arXiv:1910.12595 [math.GM]
- [196] R. Gorenflo and F. Mainardi:
 “Fractional Diffusion and Parametric Subordination”,
 In V.E Tarasov (Editor), *Handbook of Fractional Calculus with Applications*,
 Vol. 5, pp 99-128 (2019). De Gruyter, Berlin. Series editor: J.A Tenreiro Machado.
- [195] Yu Luchko and F. Mainardi:
 “Fractional Diffusion-Wave Phenomena”,
 In V.E Tarasov (Editor), *Handbook of Fractional Calculus with Applications*,
 Vol. 5, pp 71-98 (2019). De Gruyter, Berlin. Series editor: J.A Tenreiro Machado.
- [194] F. Mainardi: “Fractional Viscoelasticity”,
 In V.E Tarasov (Editor), *Handbook of Fractional Calculus with Applications*,
 Vol. 4, pp 153-182 (2019). De Gruyter, Berlin. Series editor: J.A Tenreiro Machado.
- [193] R. Gorenflo and F. Mainardi:
 “Fractional Relaxation-Oscillation Phenomena”,
 In V.E Tarasov (Editor), *Handbook of Fractional Calculus with Applications*,
 Vol. 4, pp 153-182 (2019). De Gruyter, Berlin. Series editor: J.A Tenreiro Machado.
- [192] R. Gorenflo, F. Mainardi and S. Rogosin:
 “Mittag-Leffler function: properties and applications”,
 In A. Kochubei, Yu.Luchko (Editors), *Handbook of Fractional Calculus with Applications*,
 Vol. 1, pp. 269-296 (2019). De Gruyter, Berlin.
 Series editor: J.A Tenreiro Machado.
- [191] F. Mainardi and E. Masina:
 “On modifications of the exponential integral with the Mittag-Leffler function”
Fract. Calc. Appl. Anal., Vol. **21**, No 5 (2018), pp. 1156–1169.
 DOI: 10.1515/fca-2018-0063; E-print: arxiv.org/abs/1901.10519
Erratum in Fract. Calc. Appl. Anal., Vol. 23, No 2 (2020), pp. 600-603.
- [190] I. Colombaro, R. Garra, A. Giusti and F. Mainardi:
 “Scott-Blair models with time-varying viscosity”,
Appl. Mathematics Letters Vol 86 (2018), 57-63.
 DOI:10.1016/j.aml.2018.06.022;
 E-print: [arXiv:1805.08432](https://arxiv.org/abs/1805.08432)

- [189] R. Gorenflo and F. Mainardi:
 “The Mittag-Leffler function in the thinning theory for renewal processes”,
Theory of Probability and Mathematical Statistics, Vol. 98, No 1, pp 100-108 (2018).
 (Teoriya imovirnostey ta matematychna statystyka), Special issue on Fractallity and Fractionality edited by Y.Mishura, L.Sakhno, G. Shevchenko. E-print: [arXiv:1808.06563](https://arxiv.org/abs/1808.06563)
- [188] S. Vitali, F. Mainardi and G. Castellani:
“Emergence of Fractional Kinetics in Spiny Dendrites”
Fractal Fract. Vol. 2 No 1 (2018), Paper 6, pp 8; Published on line 25 January 2018.
 DOI:[10.3390/fractfract2010006](https://doi.org/10.3390/fractfract2010006) E-print: [arXiv:1808.07021](https://arxiv.org/abs/1808.07021)
- [187] F. Mainardi: Editorial to the Special Issue “Fractional Calculus: Theory and Applications”, *Mathematics (MDPI)* Vol. 6 No 9, 145, pp. 4 (2018)
 Published on line 21 August 2018. DOI: 10.3390/math6090145
 Guest Editor: F. Mainardi
- [186] F. Mainardi:
 “A note on the equivalence of fractional relaxation equations to differential equations with varying coefficients” *Mathematics* Vol 6 (2018) No 8, pp. 6. Published on line 9 January 2018.
 DOI: [10.3390/math6010008](https://doi.org/10.3390/math6010008)
 Eprint: [arXiv:1712.10330](https://arxiv.org/abs/1712.10330)
- [185] R. Garra, A. Giusti and F. Mainardi:
 “The fractional Dodson diffusion equation: a new approach”.
Ricerche di Matematica Vol. 67 (2018), pp.899-909. Published on line 17 Jan 2018,
 DOI: [10.1007/s11587-018-0354-3](https://doi.org/10.1007/s11587-018-0354-3); E-print [arXiv:1709.08994](https://arxiv.org/abs/1709.08994) [math-ph]
- [184] F. Mainardi, E. Masina, and G. Spada:
 “A generalization of the Becker model in linear viscoelasticity: Creep, relaxation and internal friction”.
Mechanics of Time-Dependent Materials, Vol.23 (2019), pp. 283-294.
 Published on line 2 February 2018, pp 12; DOI:10.1007/s11043-018-9381-4;
 E-print arXiv:1707.05188
- [183] S. Rogosin and F. Mainardi:
 “A.Ya. Khintchine's Work in Probability Theory”,
Notices of the International Congress of Chinese Mathematicians (ICCM Notices)
 Vol . 5, No 2 pp. 60-75, December 2017, International Press, Boston
 DOI: 10.4310/ICCM.2017.v5.n2.a6; E-print arXiv:1705.08744
- [182] R. Garrappa, S. Rogosin and F.Mainardi:
 “On a generalized three-parameter Wright function of Le Roy type”
Fract. Calc. Appl. Anal., Vol. 20, No 5 (2017), pp. 1196-1215.
 DOI: 1015/fca-2017-0063; E-print arXiv:2007.05925

- [181] I. Colombaro, A. Giusti and F. Mainardi:
 “Wave dispersion in the linearized fractional Korteweg-de Vries equation”,
 19th Int. Conference on Mathematical and Computational Methods in Science and
 Engineering (MACMESE ’17), Berlin, Germany, March 31 – April 2, 2017.
 WSEAS Transaction of Systems, Vol. 16 (2017), pp. 43-46. E-print [arXiv:1704.02508](https://arxiv.org/abs/1704.02508)
- [180] R. Garra, F. Mainardi and G. Spada:
 “A generalization of the Lomnitz logarithmic creep law via Hadamard fractional calculus”
Chaos, Solitons & Fractals, Vol . 102 (2017), pp. 333–338.
 DOI: 10.1016/j.chaos.2017.03.032; E-print arXiv:1701.03068v3
- [179] S. Vitali, G. Castellani and F. Mainardi:
 “Time fractional cable equation and applications in neurophysiology” ,
Chaos, Solitons & Fractals, Vol . 102 (2017), pp. 467-472.
 DOI: [10.1016/j.chaos.2017.04.043](https://doi.org/10.1016/j.chaos.2017.04.043) ;E-print [arXiv:1702.05339](https://arxiv.org/abs/1702.05339)
- [178] S. Vitali and F. Mainardi:
 “Fractional cable models for signal conduction in spiny neuronal dendrites”,
 AIP proceedings of the 2017 Int.Conf. on Applied Mathematics and Computer Science
 (ICAMCS 2017), Rome, Italy, January 27-29, 2017. Editor: Klimis Ntalianis
 Vol. 1836, 020004 (2017); DOI:10.631/1.4981944 E-print arXiv:1702.05325
- [177] I. Colombaro, A. Giusti and F. Mainardi:
 “A one parameter class of fractional Maxwell-like models”,
 AIP proceedings of the 2017 Int.Conf. on Applied Mathematics and Computer
 Science (ICAMCS 2017), Rome, Italy, January 27-29, 2017. Editor: Klimis Ntalianis
 Vol. 1836, 020003 (2017); DOI:10.631/1.4981943 E-print [arXiv:1610.05958](https://arxiv.org/abs/1610.05958)
- [176] I. Colombaro, A. Giusti and F. Mainardi:
 “On transient waves in linear viscoelasticity”,
Wave Motion, Vol. 74 (2017), pp. 191-212.
 DOI: 10.1016/j.wavemoti.2017.07.08 E-print [arXiv:1705.01323](https://arxiv.org/abs/1705.01323)
- [175] I. Colombaro, A. Giusti and F. Mainardi:
 “On the propagation of transient waves in a viscoelastic Bessel medium”,
Zeit. Angew. Math. Phys. (ZAMP), Vol. 68 (2017), Art. 62, 13pages.
 DOI: 10.1007/s00033-017-0808-6. E-print [arXiv:1612.09489](https://arxiv.org/abs/1612.09489)
- [174] I. Colombaro, A. Giusti and F. Mainardi:
 “A class of linear viscoelastic models based on Bessel functions”,
Meccanica, Vol. 52 (2017), pp. 825-832. DOI: 10.1007/s11012-016- 0456-5.
 E-print [arXiv:1602.04664](https://arxiv.org/abs/1602.04664)

- [173] J. Carcione and F. Mainardi:
 “On the relation between sources and initial conditions for the wave and diffusion equations”,
Computers and Mathematics with Applications, Vol 73 No 6 (2017), pp. 906-913 .
 DOI: 10.1016/j.camwa.2016.04.019
- [172] R. Garrappa, F. Mainardi and G. Maione:
 “Models of dielectric relaxation based on completely monotone functions”,
Fract. Calc. Appl. Anal. Vol 19, No5 (2016), pp. 1105-1160.
 DOI: 10.1515/fca-2016-0060 E-print arXiv:1611.04028
- [171] J. A.T. Machado, F. Mainardi, V.K. Kiryakova and T. Atanackovic (Guest editors):
 “Fractional Calculus: D’ou venons-nous? Que sommes-nous? Ou allons-nous?” *Fract. Calc. Appl. Anal.* Vol 19 No 5 (2016), pp. 1074–1104.
 DOI: 10.1515/fca-2016-0059.
 N.B. Contributions of several authors after the Round Table held at the International Conference “Fractional Differentiation and Applications” (ICFDA ’16),
 held in Novi Sad (Serbia), 18-20 July 2016, see <http://www.icfda16.com/public/>
- [170] A. Giusti and F. Mainardi:
 “A dynamic viscoelastic analogy for fluid-filled elastic tubes”,
Meccanica, Vol 51 (2016), pp 2321-2330.
 DOI: 10.1007/s11012-016-0376-4. E-print [arXiv:1505.06694](https://arxiv.org/abs/1505.06694)
- [169] A. Giusti and F. Mainardi:
 “On infinite series concerning zeros of Bessel functions of the first kind”,
Eur. Phys. J. Plus (2016) Vol. 131 (2016) 206, 7pages
 DOI: 10.1140/epjp/i2016-16206-4. E-print: [arXiv:1601.00563](https://arxiv.org/abs/1601.00563)
- [168] R. Garrappa and F. Mainardi:
 “On Volterra functions and Ramanujan integrals”,
Analysis , Vol. 36, No2 (2016), pp. 89–105. DOI: 10.1515/anly-2015-5009
 N.B Special issue devoted to the memory of Prof. A. A. Kilbas,
 Guest editor: S. Rogosin. E-print at arXiv:1610.01491
- [167] F. Mainardi and R. Garrappa: “ On complete monotonicity of the Prabhakar function and non-Debye relaxation in dielectrics”,
Journal of Computational Physics, Vol. 293 (2015), pp. 70–80.
 DOI: 10.1016/j.jcp.2014.08.006 E-print at arXiv:1610.01763

- [166] R. Gorenflo and F. Mainardi:
 “On the fractional Poisson process and the discretized stable subordinator”,
Axioms, Vol 4 (2015), pp. 321-344; DOI:10.3390/axioms4030321
 In Special Issue “Special Functions: Fractional Calculus and the Pathway for Entropy”
 dedicated to Professor Dr. A.M. Mathai at the occasion of his 80th birthday,
 Guest editor Prof. Dr. Hans J. Haubold. See
http://www.mdpi.com/journal/axioms/special_issues/special_functions-fractional_calculus.
 E-print at [arXiv:1305.3074](https://arxiv.org/abs/1305.3074)
- [165] J. Tenreiro Machado, F. Mainardi and V. Kiryakova (Guest editors): “Fractional Calculus: Quo vadimus ? (Whre are we going?)”
Fract. Calc. Appl. Anal. Vol 18 No 2 (2015), pp. 495–526.
 DOI: 10.1515/fca-2015-0031.
 N.B. Contributions of several authors after the Round Table held at the International Conference “Fractional Differentiation and Applications” (ICFDA ’14),
 Catania (Italy), 23-25 June 2014, see details at <http://www.icfda14.dieei.unict.it/>.
- [164] S. Rogosin and F. Mainardi:
 “George William Scott Blair - the pioneer of fractional calculus in rheology”,
Communications in Applied and Industrial Mathematics,
 Vol 6 No 1 (2014) e-481, 20 pages; DOI: 10.1685/journal.caim.481
 available at <http://caim.simai.eu/index.php/caim/issue/view/48/>
 N.B. A larger version (22 pages) is posted as E-print at [arXiv:1404.3295](https://arxiv.org/abs/1404.3295)
- [163] F. Mainardi: “On some properties of the Mittag-Leffler function
 $E_{\alpha}(-t^{\alpha})$, completely monotone for $t>0$ with $0<\alpha<1$ ”,
Discrete and Continuous Dynamical Systems, Series B, Vol. 19, No 7 (2014),
 pp. 2267-2278. DOI: 10.3934/dcdsb.2014.19.2267 E-print: <http://arxiv.org/abs/1305.0161>
- [162] E. Capelas de Oliveira, F. Mainardi and J. Vaz Jr: “Fractional models of anomalous relaxation based on the Kilbas and Saigo function”, *Meccanica*, vol. 49 (2014), pp. 2049-2060. DOI 10.1007/s11012-014-9930-0
- [161] R. Garra, A. Giusti, F. Mainardi and G. Pagnini: “Fractional relaxation with time -varying coefficient”,
Fract. Calc. Appl. Anal., Vol 17 No2 (2014) pp. 424–439.
 DOI: 10.2478/s13540-014-0178-0
- [160] Yu. Luchko and F. Mainardi: “Cauchy and signaling problems for the time-fractional diffusion-wave equation” *ASME Journal of Vibration and Acoustics*, Vol. 136 No 5 (2014), pp.050904/1-7. DOI: 10.1115/1.4026892
 E-print [arXiv:1609.05443](https://arxiv.org/abs/1609.05443)

- [159] Yu. Luchko and F. Mainardi: “Some properties of the fundamental solution to the signalling problem for the fractional diffusion-wave equation”,
 Cent. Eur. J. Phys., Vol. 11 No 6 (2013), pp. 666-675.
 DOI: 10.2478/s11534-013-0247-8
- [158] Yu. Luchko, F. Mainardi, and Yu. Povstenko: “Propagation speed of the maximum of the fundamental solution to the fractional diffusion-wave equation” Computers and Mathematics with Applications, Vol. 66 (2013), pp. 774-784.
 DOI:10.1016/j.camwa.2013.01.005 E-print: <http://arxiv.org/abs/1201.5313>
- [157] G. Pagnini, A. Mura and F. Mainardi: “Two-particle anomalous diffusion: Probability density functions and self-similar stochastic processes”,
 Phil. Trans. R. Soc. A, Vol. 371, No 1990 (2013), ARTICLE ID 2012.0154, 11pp.
<http://dx.doi.org/10.1098/rsta.2012.0154>
- [156] G. Pagnini, A. Mura and F. Mainardi: “Generalized fractional master equation for self-similar stochastic processes modelling anomalous diffusion”, International Journal of Stochastic Analysis (Indawi Publ.), Vol. 2012, Article ID427383, 14pp.
- [155] F. Mainardi: “An historical perspective on fractional calculus in linear viscoelasticity”,
 Fract. Calc. Appl. Anal. Vol.15 No 4 (2012), pp.712-717 (Short Survey). E-print:
<http://arxiv.org/abs/1007.2959>
- [154] F. Mainardi and G. Spada: “Becker and Lomnitz rheological models: A comparison”, in A. D'Amore, L. Grassia and D. Acierno (Editors),
 AIP (American Institute of Physics) Conf. Proc. Vol. 1459, pp. 132-135 (2012).
 (ISBN 978-0-7354-1061-9) Proceedings of the International Conference TOP (Times of Polymers & Composites), Ischia, Italy, 10-14 June 2012
 E-print: <http://arxiv.org/abs/1210.5717>
- [153] F. Mainardi and G. Spada: “On the viscoelastic characterization of the Jeffreys-Lomnitz law of creep”, Rheol Acta, Vol.51 (2012), pp. 783-791
 E-print: <http://arxiv.org/abs/1112.5543>
- [152] F. Mainardi, and G. Pagnini: “The Role of Salvatore Pincherle in the Development of Fractional Calculus”, in S. Coen (Editor): “Mathematicians in Bologna 1861-1960”, Birkhäuser-Springer, Basel (2012), pp. 373-381.
 (ISBN 978-3-0348-0226-0).
- [151] R Gorenflo and F Mainardi:
 “Parametric Subordination in Fractional Diffusion Processes”, In:
 J. Klafter, S.C. Lim and R. Metzler (Editors): “Fractional Dynamics, Recent Advances”, World Scientific, Singapore 2012, ISBN 9814340588, 9789814340588
 Chapter 10, pp 227-261. E-print <http://arxiv.org/abs/1210.8414>

[150] F. Mainardi: “Fractional Calculus in Wave Propagation Problems”, Forum der Berliner Mathematischer Gesellschaft, Vol 19, pp. 20-52 (2011)
E-print <http://arxiv.org/abs/1202.026>

[149] E. Capelas de Oliveira, F. Mainardi and J. Vaz Jr:
“Models based on Mittag-Leffler functions for anomalous relaxation in dielectrics”, The European Physical Journal, Special Topics, Vol. 193, pp. 161-171 (2011). Revised version in E-print <http://arxiv.org/abs/1106.1761>

[148] F. Mainardi and G. Spada:
“Creep, relaxation and viscosity properties for basic fractional models in rheology”, The European Physical Journal, Special Topics, Vol. 193, pp. 133-160 (2011).
E-print <http://arxiv.org/abs/1110.3400>

[147] R. Gorenflo and F. Mainardi: “Subordination pathways to fractional diffusion”, The European Physical Journal, Special Topics, Vol. 193, pp. 119-132 (2011).
E-print: <http://arxiv.org/abs/1104.4041>

[146] C.P. Li and F. Mainardi: “Editorial”, The European Physical Journal, Special Topics, Vol. 193, pp. 1-4 (2011). Special issue on Fractional Dynamics and Control, Guest Editors: Changpin Li and Francesco Mainardi.

[145] Yu. Luchko, F. Mainardi and S. Rogosin:
“Professor Rudolf Gorenflo and his contribution to fractional calculus”, Fractional Calculus and Applied Analysis, Vol. 14 No.1, pp. 3-18 (2011). (Issue devoted to the 80th Anniversary of Prof. R. Gorenflo, Guest Editors: V.Kiryakova, Yu. Luchko, F. Mainardi, B. Vinagre, I. Podlubny, Y.Q. Chen)

[144] J. Tenreiro Machado, V. Kiryakova and F. Mainardi:
“Recent history of fractional calculus”, Commun. Nonlinear Sci. Numer. Simulat., Vol. 16, pp. 1140-1153 (2011)

[143] J.A.T. Machado, V. Kiryakova and F. Mainardi:
“A poster about the old history of fractional calculus”. Fract. Calc. Appl. Anal., Vol. 13 No.4, pp. 447-454 (2010).

[142] J. Tenreiro Machado, V. Kiryakova and F. Mainardi:
“A poster about the recent history of fractional calculus”. Fract. Calc. Appl. Anal., Vol. 13 No.3, pp. 329-334 (2010).

- [141] F. Mainardi, A. Mura and G. Pagnini:
 “The functions of the Wright type in fractional calculus”, Lecture Notes of Seminario Interdisciplinare di Matematica, Vol. 9 (2010), pp. 111-128 (Universita` degli Studi della Basilicata). A. Cialdea, G. Dattoli, M.X. He, H.M Srivastava (Editors): Proceedings of the 4th Workshop “Advanced Special Functions and Solutions of PDEs”, held in Sabaudia, Italy, May 25-28, 2009, on the occasion of Prof. Paolo Emilio Ricci’s retirement. Published by GRAFICOM, Matera (2010). ISBN 978-88-902965-8-1
- [140] F. Mainardi, A. Mura and G. Pagnini “The M Wright function in time-fractional diffusion processes: a tutorial survey”, International Journal of Differential Equations, Vol. 2010, Article ID 104505, 29 pages. DOI:10.1155/2010/104505.
<http://www.hindawi.com/a104505.html> Special issue for Fractional Differential Equations.
 E-print <http://arxiv.org/abs/1004.2950>
-
- [139] G. Pagnini and F. Mainardi:
 “Evolution equations of the probabilistic generalization of the Voigt profile function”, Journal of Computational and Applied Mathematics, Vol. 233 No 6, 1590-1595 (2010).
 [doi:10.1016/j.cam.2008.04.040]
 E-print <http://arxiv.org/abs/0711.4246> 9 pages (Mathematical Physics)
- [138] F. Mainardi, A. Mura, F. Tampieri:
 “Brownian motion and anomalous diffusion revisited via a fractional Langevin equation”, Modern Problems of Statistical Physics, Vol 8, pp. 3-23 (2009).
 A journal founded to the memory of Prof. Ascold N. Malakhov, see
<http://www.mptalam.org/i.html> E-print <http://arxiv.org/abs/1004.3505>
- [137] R. Gorenflo and F. Mainardi:
 “Some recent advances in theory and simulation of fractional diffusion processes”, Journal of Computational and Applied Mathematics, Vol. 229 No 2, 400-415 (2009). E-print <http://arxiv.org/abs/0801.0146> 33 pages (Math.PR)
- [136] A. Mura and F. Mainardi:
 “A class of self-similar stochastic processes with stationary increments to model anomalous diffusion in physics”, Integral Transforms & Special Functions, Vol. 20, No 3-4, pp. 185-198 (2009)
 E-print <http://arxiv.org/abs/0711.0665> 14 pages
- [135] R. Gorenflo, F. Mainardi and A. Vivoli :
 “Subordination in fractional diffusion processes via continuous time random walk”, In H.G.W. Begehr and F. Nicolosi (Editors) : More Progresses in Analysis, Proceedings of the 5th Int. ISAAC Congress, Catania (Italy), 25-30 July 2005. World Scientific, Singapore 2009, pp. 451-466. ISBN 978-981-283-562-8;
<http://www.worldscibooks.com/mathematics/7054.html>

- [134] A. Mura, M.S. Taqqu and F. Mainardi:
 “Non-Markovian diffusion equations and processes: analysis and simulation”,
Physica A, Vol. 387, pp. 5033-5064 (2008),
 E-print <http://arxiv.org/abs/0712.0240> 43 pages (Mathematical Physics)
- [133] R. Gorenflo and F. Mainardi: “Continuous time random walk, Mittag-Leffler waiting time and fractional diffusion: mathematical aspects”, Chap. 4 In R. Klages, G. Radons and I.M. Sokolov(Editors): “Anomalous Transport: Foundations and Applications”, Wiley-VCH, Weinheim, Germany, 2008, pp. 93-127.
 [ISBN: 978-3-527-40722-4]. E-print <http://arxiv.org/abs/0705.0797> 36 pages
- [132] F. Mainardi, and G. Pagnini :
 “Mellin-Barnes integrals for stable distributions and their convolutions”,
Fractional Calculus and Applied Analysis, Vol. 11, pp. 443-456 (2008).
- [131] F. Mainardi, A. Mura, G. Pagnini and R. Gorenflo:
 “Time-fractional diffusion of distributed order”,
Journal of Vibration and Control, vol. 14, pp. 1267-1290 (2008).
 E-print <http://arxiv.org/abs/cond-mat/0701132>
- [130] F. Mainardi and R. Gorenflo:
 “Time-fractional derivatives in relaxation processes: a tutorial survey”,
Fractional Calculus and Applied Analysis, Vol. 10 No 3 pp. 269-308 (2007).
 E-print <http://arxiv.org/abs/0801.4914>
- [129] F. Mainardi, A. Mura, R. Gorenflo and M. Stojanovic,
 “The two forms of fractional relaxation of distributed order”,
Journal of Vibration and Control, Vol. 13, pp. 1249-1268 (2007).
 E-print <http://arxiv.org/abs/cond-mat/0701131>
- [128] F. Mainardi, and G. Pagnini :
 “The role of the Fox-Wright functions in fractional subdiffusion of distributed order”,
Journal of Computational and Applied Mathematics, Vol. 207, pp. 245-257 (2007). E-print <http://arxiv.org/abs/0711.3779>
- [127] F. Mainardi, R. Gorenflo and A. Vivoli :
 “Beyond the Poisson renewal process: a tutorial survey”,
Journal of Computational and Applied Mathematics, Vol. 205, pp. 725-735 (2007).
- [126] F. Mainardi, A. Mura, G. Pagnini and R. Gorenflo:
 “Sub-diffusion equations of fractional order and their fundamental solutions”,
 in K. Tas, J. A. Tenreiro-Machado and D. Baleanu (Editors):
Mathematical Methods in Engineering,
 Springer-Verlag, Dordrecht 2007, pp. 23-55. ISBN 978-1-4020-2 (HB).

- [125] F. Mainardi, G. Pagnini and R. Gorenflo :
 "Some aspects of fractional diffusion equations of single and distributed order",
Applied Mathematics and Computation, Vol.187, pp. 295-305 (2007).
 E-print <http://arxiv.org/abs/0711.4261>
- [124] R. Gorenflo, F. Mainardi and A. Vivoli :
 "Continuous time random walk and parametric subordination in fractional diffusion",
Chaos, Solitons and Fractals, Vol. 34, pp. 87-103 (2007).
 E-print <http://arxiv.org/abs/cond-mat/0701126>
- [123] F. Mainardi and S. Rogosin :
 "The origin of infinitely divisible distributions: from de Finetti's problem to L'evy-Khintchine formula", *Mathematical Methods in Economics and Finance*, Vol. 1, pp. 37-55 (2006). Università Ca' Foscari di Venezia - Dipartimento di Matematica Applicata, ISSN: 1971-6419 (Print Edition). ISSN: 1971-3878 (Electronic Edition)
 URL: <http://www.dma.unive.it/mmef/> E-print <http://arxiv.org/abs/0801.1910>
- [122] F. Mainardi, G. Pagnini and R. Gorenflo :
 "Mellin convolution for subordinated stable processes",
Journal of Mathematical Sciences, Vol. 132, No 5, pp. 637-642 (2006).
- [121] R. Gorenflo and F. Mainardi : "Fractional relaxation of distributed order",
 in M. Novak (Editor): "Complexus Mundi: Emergent Patterns in Nature",
 World Scientific, Singapore, 2006, pp. 33-42. ISBN 981-256-666-X (HB)
- [120] F. Mainardi, A. Vivoli and R. Gorenflo:
 "Continuous time random walk and time fractional diffusion: a numerical comparison between the fundamental solutions",
Fluctuation and Noise Letters, Vol.5 No 2, pp. L291-L297 (2005).
- [119] R. Gorenflo and F. Mainardi :
 "Simply and multiply scaled diffusion limits for continuous time random walks",
IOP Journal of Physics: Conference Series, Vol. 7, pp.1-16 (2005).
 E-print: <http://www.iop.org/EJ/abstract/1742-6596/7/1/001>
 In S. Benkadda, X. Leoncini and G. Zaslavsky (Editors), International Workshop on Chaotic Transport and Complexity in Fluids and Plasmas,
 Carry Le Rouet (France) 20-25 June 2004.
- [118] R. Gorenflo and F. Mainardi :
 "Power laws, random walks, and fractional diffusion processes as well scaled refinement limits", in A. Le Méhauté, J.A. Tenreiro Machado, J.C. Trigeassou, J.Sabatier (Editors), Fractional Differentiation and its Applications,
 ISTE Books (2005). pp. 497-516. [ISBN 3-86608-026-3]

- [117] E. Scalas, R. Gorenflo, F. Mainardi and M.M. Meerschaert :
 "Speculative option valuation and the fractional diffusion equation",
 in A. Le M'ehaut'e, J.A. Tenreiro Machado, J.C. Trigeassou, J.Sabatier (Editors),
 Fractional Differentiation and its Applications, U Books (2005), pp. 265-274.
 [ISBN 3-86608-026-3]
- [116] F. Mainardi, G. Pagnini and R.K. Saxena :
 "Fox H functions in fractional diffusion",
J. Computational and Applied Mathematics, Vol 178 No1-2 (2005) pp 321-331.
- [115] F. Mainardi, R. Gorenflo and A. Vivoli :
 "Renewal processes of Mittag-Leffler and Wright type",
Fractional Calculus and Applied Analysis, Vol. 8, No 1, pp. 7-38 (2005).
 E-print <http://arxiv.org/abs/math/0701455>
- [114] E. Scalas, R. Gorenflo, H. Luckcock, F. Mainardi, M. Mantelli
 and M. Raberto : "On the intertrade waiting-time distribution",
Financial Letters, Vol. 3, No 1, pp. 38-43 (2005).
- [113] E. Scalas, R. Gorenflo, H. Luckcock, F. Mainardi, M. Mantelli
 and M. Raberto : "Anomalous waiting times in high-frequency financial data",
Quantitative Finance, Vol. 4, pp. 695-702 (2004). E-print
<http://arxiv.org/abs/physics/0505210>
- [112] R. Gorenflo, A. Vivoli and F. Mainardi,
 "Discrete and continuous random walk models for space-time fractional diffusion",
Nonlinear Dynamics, Vol. 38, pp. 101-116 (2004).
- [111] F. Mainardi, R. Gorenflo and E. Scalas :
 "A fractional generalization of the Poisson processes"
Vietnam Journal of Mathematics, Vol. 32, SI, pp. 53-64 (2004).
 E-print <http://arxiv.org/abs/math/0701454>
- [110] F. Mainardi :
 "Applications of integral transforms in fractional diffusion processes",
Integral Transforms and Special Functions, Vol. 15, No 6, pp. 477-484 (2004).
 E-print <http://arxiv.org/abs/0710.0145>
- [109] F. Mainardi, R. Gorenflo and E. Scalas :
 "A renewal process of Mittag-Leffler type", in M. Novak (Editor),
Thinking in Patterns: Fractals and Related Phenomena in Nature,
 World Scientific, Singapore 2004; pp. 35-46 [ISBN 981-238-822-2].

- [108] E. Scalas, R. Gorenflo and F. Mainardi :
 "Uncoupled continuous-time random walks: Solution and limiting behavior
 of the master equation", Physical Review E, Vol. 69, pp. 011107/1-8 (2004).
 E-print <http://arxiv.org/abs/cond-mat/0402657>
- [107] F. Mainardi, G. Pagnini and R. Gorenflo :
 "Mellin transform and subordination laws in fractional diffusion processes",
Fract. Calc. Appl. Anal., Vol. 6, No. 4, pp. 441-459 (2003).
 E-print <http://arxiv.org/abs/math/0702133>
- [106] R. Gorenflo and F. Mainardi : "Fractional diffusion processes: probability
 distributions and continuous time random walk", In: G. Rangarajan and M. Ding (Editors),
 "Processes with Long Range Correlations", Springer, Berlin 2003, pp. 148-166. [Lecture
 Notes in Physics, No. 621] E-print <http://arxiv.org/abs/0709.3990>
- [105] F. Mainardi and G. Pagnini :
 "The Wright functions as solutions of the time-fractional diffusion equations",
Applied Mathematics and Computation, Vol. 141 No 1, pp. 51-66 (2003)
- [104] F. Mainardi and G. Pagnini :
 Salvatore Pincherle: the pioneer of the Mellin-Barnes integrals,
J. Computational and Applied Mathematics, Vol 153, pp. 331-342 (2003).
 E-print <http://arxiv.org/abs/math/0702520>
- [103] E. Scalas, R. Gorenflo, F. Mainardi and M. Raberto :
 "Revisiting the derivation of the fractional diffusion equation",
Fractals, Vol. 11, Suppl. S, pp. 281-289 (2003).
 E-print <http://arxiv.org/abs/cond-mat/0210166>
- [102] F. Mainardi and G. Pagnini :
 "The fundamental solutions of the time-fractional diffusion equation",
 in M. Fabrizio, B. Lazzari and A. Morro (Editors),
 "Mathematical Models and Methods for Smart Materials",
 World Scientific, Singapore, 2002, pp. 207-224.
 [Series on Advances in Mathematics for Applied Sciences, Vol. 62]
- [101] F. Mainardi and G. Pagnini :"Space-time-fractional diffusion: exact solutions and
 probability interpretation2, in R. Monaco, M. Pandolfi Bianchi and S. Rionero (Editors),
 "11-th Conference on Waves and Stability in Continuous Media" (WASCOM 2001)
 World Scientific, Singapore, 2002, pp. 296-301.
- [100] M. Raberto, E. Scalas and F. Mainardi :
 "Waiting-times and returns in high-frequency financial data: an empirical study",
Physica A, Vol. 314, No 1-4, pp. 751-757 (2002).
 E-print <http://arxiv.org/abs/cond-mat/0203596>

- [99] R. Gorenflo, F. Mainardi, D. Moretti, G. Pagnini, and P. Paradisi : "Discrete random walk models for space-time fractional diffusion", Chemical Physics, Vol. 284, No 1/2, pp. 521-544 (2002).
E-print <http://arxiv.org/abs/cond-mat/0702072>
- [98] R. Gorenflo, F. Mainardi, D. Moretti and P. Paradisi : "Time-fractional diffusion: a discrete random walk approach", Nonlinear Dynamics, Vol. 29, No 1-4, pp. 129-143 (2002).
- [97] R. Gorenflo, F. Mainardi, D. Moretti, G. Pagnini and P. Paradisi : "Fractional diffusion: probability distributions and random walk models", Physica A, Vol. 305, No 1-2, pp. 106-112 (2002).
- [96] R. Gorenflo and F. Mainardi : "Non-Markovian random walk models, scaling and diffusion limits", in O. E. Barndorff-Nielsen (Editor), Mini Proceedings of the 2-nd MaPhySto (Mathematical Physics and Stochastics Centre), Conference on "L'evy Processes: Theory and Applications", pp. 120-128.
Dept. Mathematics, University of Aarhus, Denmark 21-25 January 2002. MPS-misc. 2002-22, Aug. 2002 (ISSN 1398-5957) See <http://www.maphysto.dk>
- [95] F. Mainardi, G. Pagnini and R. Gorenflo : "Probability distributions as solutions to fractional diffusion equations", in O. E. Barndorff-Nielsen (Editor), Mini Proceedings of the 2-nd MaPhySto Conference on "L'evy Processes: Theory and Applications", pp. 197-205.
Dept. Mathematics, University of Aarhus, Denmark 21-25 January 2002.
MPS-misc. 2002-22, Aug. 2002, pp. 197-205. (ISSN 1398-5957)
See <http://www.maphysto.dk> PUBLICATIONS 2002, Miscellanea No. 22.
- [94] J.M. Carcione, F. Cavallini, F. Mainardi and A. Hanyga : "Time-domain seismic modelling of constant-Q wave propagation using fractional derivatives", Pure and Applied Geophys (PAGEOPH) Vol. 159, pp. 1719-1736 (2002).
- [93] F. Mainardi, M. Raberto, E. Scalas and R. Gorenflo : "Survival probability of LIFFE bond futures via the Mittag-Leffler function", in H. Takayasu (Editor): Empirical Science of Financial Fluctuations - The Advent of Econophysics, Springer-Verlag, Tokyo 2002, pp. 195-206.
- [92] F. Mainardi : "Linear viscoelasticity", Chapter 4
in: A. Guran, A. Boström, O. Leroy and G. Maze (Editors), "Acoustic Interactions with Submerged Elastic Structures, Part IV: Nondestructive Testing, Acoustic Wave Propagation and Scattering", World Scientific, Singapore, 2002, pp. 97-126. [ISBN 981-02-4271-9]
[Vol. 5 on the Series B on Stability, Vibration and Control of Systems]

- [91] F. Mainardi : "Transient waves in linear viscoelastic media", Chapter 5
in: A. Guran, A. Boström, O. Leroy and G. Maze (Editors),
"Acoustic Interactions with Submerged Elastic Structures, Part IV:
Nondestructive Testing, Acoustic Wave Propagation and Scattering",
World Scientific, Singapore, 2002, pp. 127-161, see above.
[Vol. 5 on the Series B on Stability, Vibration and Control of Systems]
- [90] F. Mainardi, R. Gorenflo, D. Moretti and P. Paradisi :
"Random walk models for time-fractional diffusion",
in M.M. Novak (Editor), "Emergent Nature: Patterns, Growth and Scaling in the Sciences", World Scientific, Singapore 2001, pp. 185-196.
- [89] F. Mainardi, Yu. Luchko and G. Pagnini :
"The fundamental solution of the space-time fractional diffusion equation",
Fractional Calculus and Applied Analysis, Vol. 4, No 2, 153-192 (2001).
E-print <http://arxiv.org/abs/cond-mat/0702419>
- [88] R. Gorenflo and F. Mainardi :
"Random walk models approximating symmetric space-fractional diffusion processes", in: J. Elschner, I. Gohberg and B. Silbermann (Editors),
"Problems in Mathematical Physics" (Siegfried Prössdorf Memorial Volume),
Birkhäuser Verlag, Boston-Basel-Berlin, 2001, pp. 120-145
E-print <http://arxiv.org/abs/1210.6589>
-
- [87] P. Paradisi, R. Cesari, F. Mainardi and F. Tampieri :
"The fractional Fick's law for non-local transport processes",
Physica A, Vol. 293, pp. 130-142 (2001).
- [86] P. Paradisi, R. Cesari, F. Mainardi, A. Maurizi and F. Tampieri :
"A generalized Fick's law to describe non-local transport processes",
Phys. Chem. Earth (B) Vol. 26, No. 4, pp. 275-279 (2001).
- [85] F. Mainardi and P. Paradisi : "Fractional diffusive waves",
J. Computational Acoustics, Vol. 9 N.4, pp. 1417-1436 (2001).
- [84] R. Gorenflo, F. Mainardi, E. Scalas and M. Raberto :
"Fractional calculus and continuous-time finance III: the diffusion limit",
in M. Kohlmann and S. Tang (Editors): "Mathematical Finance",
Birkhäuser Verlag, Basel-Boston-Berlin, 2001, pp. 171-180.
- [83] F. Mainardi, M. Raberto, R. Gorenflo and E. Scalas :
"Fractional calculus and continuous-time finance II: the waiting-time distribution",
Physica A, Vol. 287, No 3-4, pp. 468-481 (2000).
E-print <http://arxiv.org/abs/cond-mat/0006454>

- [82] E. Scalas, R. Gorenflo and F. Mainardi :
 "Fractional calculus and continuous-time finance",
Physica A, Vol. 284, No 1-4, pp. 376-384 (2000).
 E-print <http://arxiv.org/abs/cond-mat/0001120>
- [81] F. Mainardi and R. Gorenflo :
 "On Mittag-Leffler-type functions in fractional evolution processes",
J. Computational and Applied Mathematics, Vol. 118, No 1-2, pp. 283-299 (2000).
- [80] R. Gorenflo, Yu. Luchko and F. Mainardi :
 "Wright functions as scale-invariant solutions of the diffusion-wave equation",
J. Computational and Applied Mathematics, Vol. 118, No 1-2, pp. 175-191 (2000).
- [79] F. Mainardi and R. Gorenflo :
 "Fractional calculus: special functions and applications",
 in D. Cocolicchio, G. Dattoli and H.M. Srivastava (Editors),
Advanced Special Functions and Applications, Aracne, Roma (2000), pp. 165-189.
- [78] M. Raberto, G. Cuniberti, E. Scalas, M. Riani, F. Mainardi and G. Servizi :
 "Learning short-option valuation in the presence of rare events",
Intl. Journal of Theoretical and Applied Finance, Vol. 3, No 3, pp. 563-564 (2000).
 E-print: <http://arxiv.org/abs/cond-mat/0001253>
- [77] R. Gorenflo, Yu. Luchko and F. Mainardi :
 "Analytical properties and applications of the Wright function",
Fractional Calculus and Applied Analysis, Vol. 2, No 4, pp. 383-414 (1999).
 E-print <http://arxiv.org/abs/math-ph/0701069>
- [76] R. Gorenflo and F. Mainardi:
 "Feller fractional diffusion and L'evy stable motions",
 in O.E. Barndorff-Nielsen, S.E. Graversen and T. Mikosch (Editors),
Mini Proceedings of the MaPhySto Conference on "L'evy Processes: Theory and Applications", Dept. Mathematics, University of Aarhus, Denmark, 18-22 Jan 1999.
<http://www.maphysto.dk> PUBLICATIONS 1999, Miscellanea No. 11, pp. 111-122.
- [75] R. Gorenflo and F. Mainardi :
 "Approximation of L'evy-Feller diffusion by random walk",
J. Analysis and its Applications (ZAA), Vol. 18, No 2, pp. 231-246 (1999).
- [74] R. Gorenflo, G. De Fabritiis and F. Mainardi :
 "Discrete random walk models for symmetric L'evy-Feller diffusion processes",
Physica A, Vol. 269, No 1, pp. 79-89 (1999).
 E-print <http://arxiv.org/abs/cond-mat/9903264>

- [73] F. Mainardi and F. Tampieri :
 "Diffusion regimes in Brownian motion induced by the Basset history force",
 Technical Paper No 1 (ISAO-TP-99/1), ISAO-CNR, Bologna, March 1999, pp. 25.
 [Invited Lecture, Meeting of TAO (Transport in the Atmosphere and the Oceans) Working Group on Diffusion, Stockholm, Sweden, 6-11 October 1997]
 [Invited Lecture, First General Workshop of the ESF Programme TAO:
 "Transport in the Atmosphere and the Oceans", Palma de Mallorca, Spain,
 8-11 January 1997].
- [72] R. Gorenflo and F. Mainardi :"Signalling problem and Dirichlet-Neumann map for time-fractional diffusion-wave equations", Matimy'sas Matematika, Vol. 21, pp. 109—118 (1998). [Special issue of Matimy'sas Matematika .Official Journal of the Mathematical Society of the Philippines), ISSN 0115-6926]] Preprint No. A-07/98, Freie Universit"at Berlin, Serie A Mathematik (1998). pp. 10.
 See <http://www.math.fu-berlin.de/publ/index.html>
- [71] R. Gorenflo, F. Mainardi and H.M. Srivastava :
 "Special functions in fractional relaxation-oscillation and fractional diffusion-wave phenomena", in D. Bainov (Editor), Proceedings VIII International Colloquium on Differential Equations, Plovdiv 1997, VSP (International Science Publishers), Utrecht (1998), pp. 195-202.
- [70] R. Gorenflo and F. Mainardi :
 "Random walk models for space-fractional diffusion processes",
 Fractional Calculus and Applied Analysis, Vol. 1, No 2, 167-190 (1998).
- [69] F. Mainardi, P. Paradisi and R. Gorenflo :
 "Probability distributions generated by fractional diffusion equations",
 Invited Lecture, Workshop on Econophysics, Budapest 21-27 July 1997.
 LaTeX Pre-print, Dept. of Physics, Bologna, January 1998, pp. ii +39.
 E-print <http://arxiv.org/abs/0704.0320>
 [It would have appeared in J. Kertesz and I. Kondor (Editors),
 Econophysics: an Emerging Science, Kluwer, Dordrecht, book NOT published!]
- [68] R. Gorenflo and F. Mainardi :
 "Fractional calculus and stable probability distributions",
 Archives of Mechanics, Vol. 50, No 3, 377-388 (1998).

[67] F. Mainardi :

"Considerations on fractional calculus: interpretations and applications",
in P. Rusev, I. Dimovski, V. Kiryakova (Editors), Transform Methods and Special Functions, Varna 1996, pp. 594-597. Institute of Mathematics \& Informatics, Bulg. Acad. Sci., Sofia (1998) (ISBN 954-8986-05-1) pp. 614 + vi),
[Reprinted in KEY-NOTES, <http://www.fracalmo.org>]
Invited Contribution to Round Table Discussion, "Physical and Geometrical Meanings of Fractional Calculus Operators" 2-nd Int. Workshop on Transform Methods and Special Functions, Varna, Bulgaria, 23-29 August 1996

[66] F. Mainardi : "Applications of Fractional Calculus in Mechanics",

in P. Rusev, I. Dimovski, V. Kiryakova (Editors),
Transform Methods and Special Functions, Varna 1996, pp. 309-334.
Institute of Mathematics \& Informatics, Bulg. Acad. Sci. Sofia (1998).
(ISBN 954-8986-05-1) pp. 614 + vi,
[Invited Lecture, 2-nd Int. Workshop on Transform Methods and Special Functions, Varna, Bulgaria, 23-29 August 1996]

[65] F. Mainardi and P. Paradisi :

"A model of diffusive waves in viscoelasticity based on fractional calculus",
in O.R. Gonzales (Editor): Proceedings 36-th IEEE CDC97 (Conference on Decision and Control, 1997), Paper ID 97i15-01 CD ROM, pp.6
[San Diego, California 10-12 December 1997]

[64] F. Mainardi and M. Tomirotti :

"Seismic pulse propagation with constant \$Q\$ and stable probability distributions",
Annali di Geofisica, Vol. 40, pp. 1311-1328 (1997).[E-print:
<http://arxiv.org/abs/1008.1341>]

[63] F. Mainardi :"Fractional calculus, some basic problems in continuum and statistical mechanics", in A. Carpinteri and F. Mainardi (Editors),

Fractals and Fractional Calculus in Continuum Mechanics,
Springer Verlag, Wien (1997), pp. 291-348. Vol. no 378, series CISM Courses and Lecture Notes, (ISBN 3-211-82913-X) [Advanced School held at CISM, Udine, Italy, 23-27 September 1996][E-print <http://arxiv.org/abs/1201.0863>]

[62] R. Gorenflo and F. Mainardi : "Fractional calculus, integral and differential equations of fractional order, in A. Carpinteri and F. Mainardi (Editors), Fractals and Fractional Calculus in Continuum Mechanics, Springer Verlag, Wien (1997), pp. 223-276. Vol. no 378, series CISM Courses and Lecture Notes, (ISBN 3-211-82913-X)

[Advanced School held at CISM, Udine, Italy, 23-27 September 1996]
[E-print <http://arxiv.org/abs/0805.3823>]

- [61] F. Mainardi: "On Linear Differential Equations of Fractional Order",
in D. Bainov (Editor), Proceedings VII International Colloquium on Differential Equations,
Plovdiv 1996, VSP (International Science Publishers), Utrecht (1997), pp. 221-229.
- [60] F. Mainardi and R. Gorenflo :
"The Mittag-Leffler function in the Riemann-Liouville fractional calculus",
in A.A. Kilbas (Editor), Boundary Value Problems, Special Functions and Fractional
Calculus , Belarusian State University, Minsk 1996, pp. 215-225.
Int. Conf. Boundary Value Problems, Special Functions and Fractional Calculus, Minsk,
Belarus, 16-20 February 1996.
- [59] R. Gorenflo and F. Mainardi :
"Fractional oscillations and Mittag-Leffler functions",
Preprint No. A-14/96, Freie Universit\at Berlin, Serie Mathematik (1996), pp. 22.
<http://www.math.fu-berlin.de/publ/index.html>
- [58] F. Mainardi and P. Pironi :
"The fractional Langevin equation: Brownian motion revisited",
Extracta Mathematicae, Vol. 11, No 1, pp. 140-154 (1996).
E-print <http://arxiv.org/abs/0806.1010> 15 pages (Mathematical Physics)
- [57] F. Mainardi :
"The fundamental solutions for the fractional diffusion-wave equation",
Applied Mathematics Letters, Vol. 9, No 6, pp. 23-28 (1996).
- [56] F. Mainardi :
"Fractional relaxation-oscillation and fractional diffusion-wave phenomena",
Chaos, Solitons and Fractals, Vol. 7, No 9, pp. 1461-1477 (1996).
- [55] F. Mainardi :
"The Time Fractional Diffusion-Wave Equation",
Radiofisika [Radiophysics] \& Quantum Electronics, Vol. 38, No1-2, 20--36 (1995).
- [54] F. Mainardi, P. Pironi and F. Tampieri :
"A numerical approach to the generalized Basset problem for a sphere
accelerating in a viscous fluid", in P.A. Thibault and D.M. Bergeron (Editors),
Proceedings CFD 95, Vol. II, pp. 105-112 (1995).
[3-rd Annual Conference of the Computational Fluid Dynamics Society
of Canada, Banff, Alberta, Canada, 25-27 June 1995].
- [53] F. Mainardi, P. Pironi and F. Tampieri :
"On a generalization of the Basset problem via fractional calculus",
in B. Tabarrok and S. Dost (Editors), Proceedings CANCAM 95,
Vol. II, pp. 836-837 (1995). [15-th Canadian Congress of Applied Mechanics,
Victoria, British Columbia, Canada, 28 May - 2 June 1995].

- [52] F. Mainardi and M. Tomirotti :
 "On a special function arising in the time fractional diffusion-wave equation",
 in P. Rusev, I. Dimovski and V. Kiryakova (Editors),
 Transform Methods and Special Functions, Sofia 1994,
 Science Culture Technology, Singapore (1995), pp. 171-183.
- [51] F. Mainardi : "Fractional diffusive waves in viscoelastic solids"
 in J.L. Wegner and F.R. Norwood (Editors) IUTAM Symposium on Nonlinear Waves
 in Solids, ASME book No AMR 137, Fairfield NJ (1995), pp. 93-97.
 [Abstract in Appl. Mech. Rev., Vol. 46, No 12, p. 549 (1993)]
- [50] F. Mainardi :
 "On the initial value problem for the fractional diffusion-wave equation",
 in S. Rionero and T. Ruggeri (Editors),
 "7th Conference on Waves and Stability in Continuous Media" (WASCOM 1993),
 World Scientific, Singapore (1994), pp. 246-251. (ISBN 981-02-1878-8)
 [Series on Advances in Mathematics for Applied Sciences, Vol. 23]
- [49] F. Mainardi :
 "Fractional relaxation and fractional diffusion equations, mathematical aspects",
 in W.F. Ames (Editor),
 Proceedings 12-th IMACS World Congress, Vol. 1, 329-332 (1994).
 [GeorgiaTech, Atlanta, USA, 11-15 July 1994].
- [48] F. Mainardi : "Fractional relaxation in anelastic solids"
 Journal of Alloys and Compounds, Vol. 211/212, pp. 534-538 (1994).
- [47] M.G. Angelucci, F. Tampieri and F. Mainardi :
 "Dynamics of an impurity in a 1-D periodic Burgers flow"
 J. Physics A: Math. Gen., Vol. 27, pp. L527 - L532 (1994).
- [46] F. Tampieri, F. Mainardi, M.E. Grella and M.G. Angelucci :
 "On passive tracer transport in a Burgers flow",
 in P.L. Sachdev and R.E. Grundy (Editors): "Nonlinear Diffusion Phenomenon,
 Narosa Publ. House, New Delhi (1994), pp. 220 -235.
- [45] E. Grassi and F. Mainardi :
 "On attenuation of pressure waves in large arteries"
 in I. Barbieri, E. Grassi, G. Pallotti and P. Pettazzoni (Editors),
 "Topics on Biomathematics", World Scientific, Singapore (1993), pp. 265 - 271.
- [44] F. Mainardi : "Energy propagation for dispersive waves in dissipative media",
 Radiofisika [Radiophysics \& Quantum Electronics],
 Vol. 36, No 7, pp 650 - 664 (1993).

- [43] F. Mainardi and D. Tocci :
 "Energy propagation in linear hyperbolic systems in the presence of dissipation"
 in A. Donato and F. Oliveri (Editors):
Notes on Numerical Fluid Mechanics, Vol. 43, pp 409-415 (1993).
 [Nonlinear Hyperbolic Problems: Theoretical, Applied, and Numerical Aspects,
 Vieweg, Braunschweig]
- [42] F. Mainardi, D. Tocci and F. Tampieri :
 "On energy propagation for internal waves in dissipative fluids"
Il Nuovo Cimento B, Vol. 107, pp. 1337 -1342 (1992).
- [41] F. Mainardi, F. Tampieri and G. Vitali :
 "Dissipative effects on internal gravity waves in geophysical fluids"
Il Nuovo Cimento C, Vol. 14 , pp. 391 -- 399 (1991).
- [40] F. Mainardi and G. Vitali :
 "Applications of the method of steepest descents in wave propagation problems"
 in R. Wong (Editor),: "Asymptotic and Computational Analysis",
 Marcel Dekker Inc., New York, N.Y. (1990), pp. 639 - 651.
- [39] E. van Groesen and F. Mainardi :
 "Balance laws and centrovelocity in dissipative systems"
J. Math. Phys., Vol. 30, pp. 2136 -2140 (1990).
- [38] F. Mainardi and E. van Groesen :"Energy propagation in linear hyperbolic systems
Il Nuovo Cimento B, Vol. 104, pp. 487 -496 (1989).
- [37] E. van Groesen and F. Mainardi :
 "Energy propagation in dissipative systems, Part I: Centrovelocity for linear systems",
Wave Motion, Vol. 11, pp. 201-209 (1989).
- [36] F. Mainardi, G. Vitali and P.H. LeBlond :
 "Energy velocity for surface waves in viscous liquids"
 in D.G. Crighton and F. Mainardi (Editors),
 "Euromech 240: Dispersive Waves in Dissipative Fluids",
 Pitagora-Tecnoprint, Bologna (1989), pp. 40 - 41.
- [35] P.H. LeBlond, F. Mainardi and G. Vitali :
 "Dispersion and attenuation of surface waves in viscous liquids"
 in G.A.C. Graham and S.K. Malik (Editors), "Continuum Mechanics and its
 Applications", Hemisphere Publ. Co., New York, N.Y. (1989), pp. 475 - 486.
- [34] F. Mainardi and E. Bonetti :
 "The application of real-order derivatives in linear visco\-\-elasticity"
Rheologica Acta, Vol. 26 Suppl., pp. 64 - 67 (1988).

- [33] T.B. Moodie, D.W. Barclay and F. Mainardi :
 "Reflection in liquid -filled tube systems: Modelling the effects of mismatched tube segments" *Acta Mechanica*, Vol. 70, pp. 111 -126 (1987).
- [32] P.H. LeBlond and F. Mainardi :
 "The viscous damping of capillary - gravity waves"
Acta Mechanica, Vol. 68, pp. 203 - 222 (1987).
- [31] F. Mainardi : "Energy velocity for hyperbolic dispersive waves"
Wave Motion, Vol. 9, pp. 201 - 208 (1987).
- [30] F. Mainardi and P.H. LeBlond : "Surface waves in viscous liquids"
 in P.G. Ciarlet and E. Sanchez-Palencia (Editors),
 "Applications of Multiple Scaling in Mechanics",
 Masson, Paris (1987), pp. 238 --245.
 [Recherches en Math\'ematiques Appliqu\'ees, Vol. 4]
- [29] T.B. Moodie, F. Mainardi and R.J. Tait :
 "Pressure pulses in fluid-filled distensible tubes"
Meccanica, Vol. 20, pp. 33 - 37 (1985).
- [28] F. Mainardi : "Linear dispersive waves with dissipation",
 in C. Rogers and T.Bryant Moodie (Editors),
 "Wave Phenomena: Modern Theory and Applications",
 North-Holland, Amsterdam (1984), pp. 307 -317.[Mathematics Studies Vol. 97]
- [27] G. Gagliardi, F. Mainardi and G. Turchetti :
 "A perturbative approach to the Korteweg-De Vries-Burgers equation",
 in A. Nakamura (Editor), " Proc. X Int. Symposium Nonlinear Acoustics,
 pp. 15 - 19 (1985). [Kobe (Japan), 24-28 July 1984]
- [26] F. Mainardi and H. Buggisch :
 "On non-linear waves in liquid-filled elastic tubes"
 in U. Nigul and J. Engelbrecht (Editors), "Nonlinear Deformation Waves",
 Springer Verlag, Berlin (1983), pp. 87 - 100.
- [25] F. Mainardi : "On signal velocity of anomalous dispersive waves"
Il Nuovo Cimento B, Vol. 74, pp. 52 - 58 (1983).
- [24] F. Mainardi : "Signal velocity for transient waves in linear dissipative media"
Wave Motion, Vol. 5, pp. 33 - 41 (1983).
- [23] F. Mainardi, G. Servizi and G. Turchetti : "Modelli matematici per l'amplificazione sismica" in B. Betro` and G. D'Atri (Editori), "Modelli matematici in sismologia",
 L. P. E., Cosenza (1983), pp. 88 - 112.

- [22] F. Mainardi :
 "A linear viscoelastic model for distortion of the arterial pulse"
 in M.Y.Jaffrin (Editor), "Proc.III Int. Conference on Mechanics in Medicine and
 Biology", pp. 49 -50 (1982) [Compiègne, France, 10-13 July 1982]
- [21] E. Strick and F. Mainardi :
 "On a general class of constant Q solids"
Geophysical Journal Royal Astronomic. Society, Vo. 69, pp. 415-429 (1982).
- [20] F. Mainardi and R. Nervosi : "Transient waves in finite viscoelastic rods"
Lett. Il Nuovo Cimento, Vol. 29, pp. 443 - 447 (1980).
- [19] E. Caroli and F. Mainardi :
 "On Love's approximation for fluid-filled elastic tubes"
Lett. Il Nuovo Cimento, Vol. 29, pp. 273 - 277 (1980).
- [18] F. Mainardi and G. Turchetti : "On the inverse amplification problem for an elastic
 layer" in P.C. Sabatier (Editor), "Inverse Problems and Non Linear Evolution",
 Editions du C.N.R.S., Paris (1980), pp. 107-130.
- [17] F. Mainardi, G. Servizi and G. Turchetti :
 "On the scalar wave propagation in a random elastic layer"
Il Nuovo Cimento C, Vol. 3, pp. 67 - 79 (1980).
- [16] R. Burridge, F. Mainardi and G. Servizi :
 "Soil amplification of plane seismic waves"
Phys. Earth Planet. Inter., Vol. 22, pp. 122 - 136 (1980).
- [15] F. Mainardi and G. Turchetti :
 "Positivity constraints and approximation methods in linear viscoelasticity"
Lett. Il Nuovo Cimento, Vol. 26, pp. 38 - 40 (1979).
- [14] F. Mainardi, G. Servizi and G. Turchetti :
 "A variational approach to elastic wave propagation in anomalous layers"
Geophysical Journal Royal Astronomic. Society, Vol. 57, pp. 79 - 90 (1979).
- [13] F. Mainardi, G. Servizi and G. Turchetti :
 "Application of Padé` approximants to elastic wave propagation"
 in J. Miklowitz and J.D. Achenbach (Editors),
 "Modern Problems in Elastic Wave Propagation",
 J. Wiley, New-York (1978), pp. 103 - 119.
- [12] F. Mainardi, G. Servizi and G. Turchetti :
 "On the propagation of seismic pulses in a porous elastic solid"
J. Geophysics, Vol. 43, pp. 83 - 94 (1977).

- [11] F. Mainardi, G. Turchetti and G. Vitali :
 "Rational approximations and relations among the linear viscoelastic functions"
 Atti III Congresso Naz. AIMETA, Vol. I, pp. 18.1 - 18.10 (1976).
- [10] G. Turchetti and F. Mainardi :
 "Wave front expansions and Padé approximants for transient waves in linear dispersive media", in H. Cabannes (Editor),
 "Padé` Approximants Method and its Applications to Mechanics",
 Springer Verlag, Berlin (1976), pp. 187- 207. [Lecture Notes in Physics, Vol. 47]
- [9] F. Mainardi and G. Turchetti :
 "Wave front expansion for transient viscoelastic waves",
 Mech. Research Comm., Vol. 2, pp. 107 - 112 (1975).
- [8] P.W. Buchen and F. Mainardi :
 "Asymptotic expansions for transient viscoelastic waves"
 Journal de Mécanique, Vol. 14, pp. 597 - 608 (1975).
- [7] F. Mainardi and G. Turchetti :
 "Onde viscoelastiche transiente in un solido di Maxwell"
 Atti II Congresso Naz. AIMETA, Vol. I, pp 99 - 104 (1974).
- [6] F. Mainardi :
 "On thermal waves in generalized linear theory of heat conduction", REPORT CISM
 Symposium on Thermomechanics in solids, Udine (Italy), July 22-23, 1974.
- [5] E. Boschi and F. Mainardi :
 "The representation theorem in the dynamic theory of porous media"
 Geophys. Journal Royal Astronomical Society, Vol. 34, pp. 313 - 320 (1973).
- [4] F. Mainardi : "On energy velocity of viscoelastic waves"
 Lett. Il Nuovo Cimento, Vol. 6, pp. 443 - 449 (1973).
- [3] F. Mainardi :
 "On the seismic pulse in a standard linear solid"
 Pure and Appl. Geophys. (Pageoph), Vol. 99, pp. 72 -- 84 (1972).
- [2] M. Caputo and F. Mainardi :
 "Linear models of dissipation in anelastic solids"
 Rivista del Nuovo Cimento (Ser.II), Vol. 1, pp. 161 - 198 (1971).
- [1] M. Caputo and F. Mainardi :
 "A new dissipation model based on memory mechanism"
 Pure and Appl. Geophys. (Pageoph), Vol. 91, pp. 134-147 (1971).
 [Reprinted in Fract. Calc. Appl. Anal. Vol.10 No 3, pp. 309–324 (2007)]

- [0] M. Bernardini, D. Bollini, E. Fiorentino, F. Mainardi, T. Massam, L. Monari, F. Palmonari and A. Zichichi (Bologna-CERN-Frascati collaboration) :
"A proposal to search for Leptonic Quarks and Heavy Leptons produced by ADONE"
Technical Report of the Istituto Nazionale di Fisica Nucleare,
INFN/AE-67/3, Sezione di Bologna 67/1, Bologna, 20 March 1967.
In 1967 a group of physicists from the University of Bologna, led by A. Zichichi,
published a proposal to search for a heavy lepton using the Frascati ($e^+ e^-$) collider.
Key pages of this proposal are reproduced in the book "The origin of the third family :
Festschrift Zichichi on the 30th anniversary of the proposal to search for the third lepton at
ADONE", World Scientific, Singapore (1998).
No 20 in WS Series in the 20th Century. ISBN: 9789812795724 (e-version)
- [-1] F. Mainardi :
"Confronto critico con i risultati sperimentali delle predizioni del gruppo SU(3) sulle
interazioni elettromagnetiche", Thesis for Degree in Physics, University of Bologna,
November 1966. [Supervisor: Prof. W. Alles]