



Europass Curriculum Vitae

Personal information

Surname(s) / First name(s)	Pagnini, Gianni
Nationality(-ies)	Italian
Date of birth	February 5, 1975
Personal Address	via Sara Levi Nathan 20, 61121 Pesaro (PU), Italy
Personal Telephone	+39 320 8414311
Personal E-mail	gianni.pagnini@gmail.com
Personal Website	www.fracalmo.org/pagnini
Work Address	BCAM - Basque Center for Applied Mathematics, Mazarredo 14, E-48009 Bilbao, Basque Country - Spain
Work Telephone	+34 946 567 842
Work E-mail	gpagnini@bcamath.org
Work Website	www.bcamath.org/gpagnini
H-Index	Web of Science = 7; Scopus = 8; Google Scholar = 12
Google Scholar profile	http://scholar.google.com/citations?user=Kh_hkZ8AAAAJ&hl=en

Education and Training

PhD Degree	Environmental Sciences
University	University of Urbino, Italy
Date	February 10, 2005
Tutor	Dr. Francesco Tampieri, ISAC-CNR Bologna, Italy
Thesis Title	Stochastic Models for Turbulent Dispersion of Pollutants in Geophysical Fluids

Laurea (Master Degree)	Physics, 107/110
University	University of Bologna, Italy
Date	October 27, 2000
Tutor	Prof. Francesco Mainardi, University of Bologna, Italy
Co-Tutor	Prof. Rudolf Gorenflo, Free University of Berlin, Germany
Thesis Title	Generalized Equations for Anomalous Diffusion and Their Fundamental Solutions
High School Diploma	Scientific Liceum, 50/60
High School	Statal Scientific Liceum "G. Marconi", Pesaro, Italy
Date	July 1994
Summer Schools	<p>'Research school on THE ROLE OF ATMOSPHERIC BOUNDARY LAYER PROCESSES IN ATMOSPHERIC CHEMISTRY', Castelldefels, Spain, 20–24 November, 2006</p> <p>'15th SUMMER SCHOOL ON PARALLEL COMPUTING', CINECA, Casalecchio di Reno (Bologna), Italy, 3–14 July, 2006</p> <p>'INTERNATIONAL SUMMERSCHOOL ON OCEAN TURBULENCE', UPC-ERCOFTAC, Vilanova i la Geltrú, Barcelona, Spain, 11–16 July, 2005</p> <p>'TRANSPORT, REACTION AND PROPAGATION IN FLUIDS' and the following conference 'KOLMOGOROV'S LEGACY IN PHYSICS: ONE CENTURY OF CHAOS, TURBULENCE AND COMPLEXITY', ICTP–INFM, Miramare (Trieste), Italy, 8–17 September, 2003</p> <p>'International summer school on ATMOSPHERIC AND OCEANIC SCIENCES (ISSAOS), CHAOS IN GEOPHYSICAL FLOWS', L'Aquila, Italy, 10–14 September, 2001</p> <p>'THE PHILOSOPHY OF QUANTUM MECHANICS', Italian Society of Logics and Philosophy of Sciences (SILFS), Cesena, Italy, 14–18 September, 1998</p>

Scientific Research Experience

01/01/2013 – today	IKERBASQUE Research Fellow, BCAM - Basque Center for Applied Mathematics Research Line: Mathematical and Numerical Modeling of Environmental Flows
31/05/2010 – 30/05/2012	PI of the research project: “Effects of Turbulence on the Propagation Velocity of the Combustion Front”. Grant funded by Autonomous Regional Authority of Sardinia and hosted by CRS4 (Center for Advanced Studies, Research and Development in Sardinia), Pula (CA), Italy.
20/10/2008 – 30/05/2010	Scientific consultant at CRS4 (Center for Advanced Studies, Research and Development in Sardinia), Pula (CA), Italy, “Energy and Environment Program”, Director E. Bonomi, area “Process Engineering and Combustion”, Head V. Zimont
17/10/2005 – 17/10/2008	Fellowship at ENEA, Bologna, Italy, “Atmospheric Modelling Group”, Head G. Zanini
01/04/2004 – 31/07/2004	Fellowship at ISAC-CNR, Bologna, Italy, research program: “Parameterization of Turbulent Mixing Processes at Interface”, Tutor F. Tampieri
19/09/2003 – 26/11/2003	Professional collaboration at ISAC-CNR, Bologna, Italy, research program: “Development of an Algorithm for the Simulation of Particle Density Distribution in Turbulent Flows”
15/07/2002 – 14/07/2003	Fellowship at ISAC-CNR, Bologna, Italy, research program: “Stochastic Models for Absolute and Relative Dispersion in Turbulent Flows”, Tutor Dr. F. Tampieri
15/07/2001 – 14/07/2002	Fellowship at ISAO-CNR, Bologna, Italy, research program: “Stochastic Models for Relative Dispersion and the Dispersion of Impurities”, Tutor Dr. F. Tampieri

Teaching Experience

Academic - undergraduate

15 and 20 December 2011

Lectures at the Course in Physics, University of Bologna, "Mellin transform and its application in Mathematical Physics".

Academic - postgraduate

12–16 June 2012

Lecturer at the International Workshop and Summer Course ENVIRONMENTAL TURBULENCE. Vilanova i la Geltrú and Barcelona, Spain.

26–28 September 2011

Lectures at the Doctorate course in Environmental Engineering, University of Cagliari, "The Mellin Transform. A unique and useful tool for multiple research activities".

High School

School Year 2004-2005

High School Teacher of *Mathematics and Physics* at the Statal Scientific Liceum "G. Marconi", Pesaro, Italy

10/03/2001 – 12/06/2001

High School Teacher of *Mathematics and Physics* at the Statal Scientific Liceum "G. Torelli", Fano (PU), Italy

Popularization

Seminars

Modelling development on wildfire propagation. Seminar cycle for valorization of CRS4 scientific research, Cagliari, Italy, 22 March 2012

Turbulence: the last unsolved problem of classical mechanics. Seminar cycle for valorization of CRS4 scientific research, Cagliari, Italy, 30 November 2011

An everyday experience at the borders of science. Cagliari Festivalcienza IV Edition, Cagliari, Italy, 8 November 2011

Other Scientific Activities

Reviewer service

Mathematical Reviews (American Mathematical Society), please see the written reviews in the Publication List

Referee services

J. Phys. A: Math. Theor. (10), *Nonlinear Analysis: Model. Cont.*,
J. Comput. Appl. Math. (3), *Physics Lett. A*,
J. Math. Anal. Appl. (2), *J. Math. Physics*,
Math. Comp. Modelling, *Europhysics Letters*,
Nonlinear Dynamics (2), *Frac. Calc. Appl. Anal.* (2),
Bull. Belgian Math. Soc., *Acta Appl. Math.*,
Nuovo Cimento B, *Reports on Math. Phys.*,
Acta. Sci. Math. (Szeged), *Commun. Stat.: Theory and Meth.*,
Tamkang J. Math., *Comput. Math. Appl.*,
Appl. Math. Model., *Math. Commun.*,
Nonlin. Processes Geophys., *Chaos, Solitons & Fractals* (5),
Demonstratio Mathematica, *Phys. Fluids*,
Int. J. Appl. Nonlin. Sci.

Scientific Collaborations

Member of the International Program Committee of the International Conference on "Fractional Differentiation and Its Applications" (FDA2014). Catania, Italy, June 23–25, 2014.

Co-Chair at "Professor Rudolf Gorenflo's Special Session 1" during FDA'10. The 4th IFAC Workshop Fractional Differentiation and its Applications. Badajoz, Spain, October 18–20, 2010. (Chair: Francesco Mainardi).

Scientific collaboration with Dr. F. Tampieri and Dr. A. Maurizi, ISAC-CNR, Bologna, Italy, on Stochastic Modelling of Turbulent Relative Dispersion

Scientific collaboration with Prof. F. Mainardi, Department of Physics, University of Bologna, Italy, on Fractional Calculus, Special Functions, Fractional Stochastic Processes

Member since 2001 of the research group led by Prof. F. Mainardi, Department of Physics, University of Bologna, Italy, Project RFO (EX 60%)

Memberships

Member since 2001 of National Group for Mathematical Physics (GNFM-INdAM), section: "Diffusion and Transport Problems"

Member since 2010 of Italian Society of Applied and Industrial Mathematics (SIMAI)

Member since 2012 of the Group SIMAI-DMA (Popularization of Applied Mathematics)
<http://maddmaths.simai.eu/>

Member since 2010 of Italian Society of Physics (SIF)

Awards

GNFM-INdAM
Young Researcher Award
2010

Research program: "Evolution Equations for the Radius of a Spherical Flame", prize 1000 euro.

GNFM-INdAM
Young Researcher Award
2007

Research program: "Study on the Relationships between Lagrangian and Eulerian Properties of Turbulent Flows", prize 1000 euro.

VIII Programme
Marco Polo,
University of Bologna, Italy

Research program: "Relative Dispersion in Turbulent Flows", prize 3450 euro. From 01/11/ to 31/01/2006 research period at INLN-CNRS, Nice, France.

Others Educational Experiences

Introductory seminar to the software Wolfram *Mathematica*[®] version 8, *Mathematica: uno strumento per la ricerca e la didattica*, CRS4, Pula (CA), 21 gennaio 2011

Conference *Dal globale al locale: piani d'azione per il clima*, ARPA-ER, University of Ferrara, Ferrara, Italy, 10–11 May, 2007

Scientific visit at INLN-CNRS, Nice, France, hosted by Dr. A. Celani, from April 14 2004 to June 14 2004, working on data analysis of Direct Numerical Simulations of Navier-Stokes equations

Publications

Research Papers

- 2013 Pagnini G., Mura A., Mainardi F., Two-particle anomalous diffusion: Probability density functions and self-similar stochastic processes. *Phil. Trans. R. Soc. A*, accepted for publication.
- 2012 Pagnini G., Mura A., Mainardi F., Generalized fractional master equation for self-similar stochastic processes modelling anomalous diffusion. *Int. J. Stoch. Anal.* **2012**, 427383 (2012)
- Pagnini G., Erdélyi–Kober fractional diffusion. *Fract. Calc. Appl. Anal.* **15**, 117–127 (2012) arxiv:1112.0890
- 2011 Pagnini G., Bonomi E., Lagrangian formulation of turbulent premixed combustion. *Phys. Rev. Lett.* **107**, 044503 (2011) arXiv:1106.5009
- Pagnini G., The evolution equation for the radius of a premixed flame ball in fractional diffusive media. *Eur. Phys. J. Special Topics* **193**, 105–117 (2011)
- Pagnini G., Nonlinear time-fractional differential equations in combustion science. *Fract. Calc. Appl. Anal.* **14**, 80–93 (2011)
- Zimont V.L., Pagnini G., Lagrangian properties of turbulent diffusion with passive chemical reaction in the framework of the premixed combustion theory. *Phys. Fluids* **23**, 035101 (2011)
- Saxena R.K., Pagnini G., Exact solutions of triple-order time-fractional differential equations for anomalous relaxation and diffusion I: the accelerating case. *Physica A* **390**, 602–613 (2011)

- 2010 | Pagnini G., Strada S., Maurizi A., Tampieri F., Lagrangian stochastic modelling for oil spills turbulent dispersion on ocean surface. *Comm. Appl. Ind. Math.* **1**, 185–204 (2010)
- Pagnini G., Mainardi F., Evolution equations for the probabilistic generalization of the Voigt profile function. *J. Comput. Appl. Math.* **233**, 1590–1595 (2010)
- Mainardi F., Mura A., Pagnini G., The M-Wright function in time-fractional diffusion processes: A tutorial survey. *Int. J. Diff. Equations* **2010**, 104505 (2010)
- 2009 | Pagnini G., The kernel method to compute the intensity of segregation for reactive pollutants: Mathematical formulation. *Atmos. Environ.* **43**, 3691–3698 (2009)
- 2008 | Pagnini G., Lagrangian stochastic models for turbulent relative dispersion based on particle pair rotation. *J. Fluid Mech.* **616**, 357–395 (2008)
- Mura A., Pagnini G., Characterizations and simulations of a class of stochastic processes to model anomalous diffusion. *J. Phys. A: Math. Theor.* **41**, 285003 (2008)
- Mainardi F., Pagnini G., Mellin-Barnes integrals for stable distributions and their convolutions. *Fract. Calc. Appl. Anal.* **11**, pp. 443–456 (2008)
- Mainardi F., Mura A., Pagnini G., Gorenflo R., Time-fractional diffusion of distributed order. *J. Vib. Control* **14**, 1267–1290 (2008)
- 2007 | Mainardi F., Pagnini G., Gorenflo G., Some aspects of fractional diffusion equations of single and distributed order, *App. Math. Comput.* **187**, 295–305 (2007)
- Mainardi F., Pagnini G., The role of the Fox-Wright functions in fractional subdiffusion of distributed order, *J. Comput. Appl. Math.*, **207** 245–257 (2007)

- 2006 Mainardi F., Pagnini G., Gorenflo R., Mellin convolution for subordinated stable processes, *J. Math. Sci.* **132**, 637–642 (2006)
- Monforti F., Vitali L., Pagnini G., Lorenzini R., Delle Monache L., Zanini G., Testing kernel density reconstruction for Lagrangian photochemical modelling. *Atmos. Environ.* **40**, 7770–7785 (2006)
- Maurizi A., Pagnini G., Tampieri F., Turbulence scale dependence of the Richardson constant in Lagrangian stochastic models. *Boundary-Layer Meteorol.* **118**, 55–68 (2006)
- 2005 Mainardi F., Pagnini G., Saxena R.K., Fox H function in fractional diffusion, *J. Comput. Appl. Math.* **178**, 321–331 (2005)
- 2004 Maurizi A., Pagnini G., Tampieri F., Influence of Eulerian and Lagrangian scales on relative dispersion properties in Lagrangian stochastic models of turbulence. *Phys. Rev. E* **69**, 037301 (2004)
- 2003 Mainardi F., Pagnini G., Gorenflo R., Mellin transform and subordination laws in fractional diffusion processes, *Fract. Calc. Appl. Anal.* **6**, 441–459 (2003)
- Mainardi F., Pagnini G., The Wright functions as solutions of the time-fractional diffusion equation. *Appl. Math. Comput.* **141**, 51–62 (2003)
- Mainardi F., Pagnini G., Salvatore Pincherle: the pioneer of the Mellin-Barnes integrals. *J. Comput. Appl. Math.* **153**, 331–342 (2003)
- 2002 Gorenflo G., Mainardi F., Moretti D., Pagnini G., Paradisi P., Discrete random walk models for space-time fractional diffusion. *Chemical Physics* **284**, 521–541 (2002)
- Gorenflo G., Mainardi F., Moretti D., Pagnini G., Paradisi P., Fractional diffusion: probability distributions and random walk models. *Physica A* **305**, 106–112, (2002)
- 2001 Mainardi F., Luchko Yu., Pagnini G., The fundamental solution of the space-time fractional diffusion equation, *Fract. Calc. Appl. Anal.* **4**, 153–192 (2001)

Proceedings

- 2012 Pagnini G., Mura A., Mainardi F., Generalized fractional master equation for self-similar stochastic processes modelling anomalous diffusion, in CD-ROM Proceedings of FDA'12. The 5th IFAC Workshop Fractional Differentiation and its Applications. Nanjing, China, May 14–17, 2012.
- Pagnini G., Massidda L., The randomized level-set method to model turbulence effects in wildland fire propagation, in D. Spano, V. Bacciu, M. Salis, C. Sirca (Eds.): *Modelling Fire Behaviour and Risk*, Proceedings of the International Conference on Fire Behaviour and Risk, Alghero, Italy, 4–6 October (2011), pp. 126–131.
- 2011 Pagnini G., Chen Y.Q., Mellin convolution for signal filtering and its application to the Gaussianization of Lévy noise, in Proceedings of the ASME 2011 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference IDETC/CIE 2011. Washington D.C., USA, August 28–31, 2011. DETC2011/MESA-47392.
- 2010 Pagnini G., Evolution equation for flame ball radius, in I. Podlubny, B.M. Vinagre Jara, YQ. Chen, V. Feliu Batlle, I. Tejado Balsera (Editors): *Proceedings of FDA'10. The 4th IFAC Workshop Fractional Differentiation and its Applications*. Badajoz, Spain, October 18-20, 2010. Article no. FDA10-063. ISBN 9788055304878.
- Mainardi F., Mura A., Pagnini G., The functions of the Wright-type in fractional calculus, in A. Cialdea, G. Dattoli, M.X. He, H.M. Srivastava (Editors): *Lecture Notes of Seminario Interdisciplinare di Matematica* vol. 9 (2010), pp. 111–128 (Università degli Studi della Basilicata; Publisher: Graficom, Matera). Proceedings of the 4th Workshop “Advanced Special Functions and Solutions of PDEs”, on the occasion of Paolo Emilio Ricci’s retirement held in Sabaudia, Italy, May 25-28, 2009.
- Pagnini G., Mainardi F., Integro-differential equations to model generalized Voigt profiles: a fractional diffusion approach, in S. Sivasundaram (Editor): *Mathematical Problems in Engineering and Aerospace and Sciences: ICNPAA 2008*, Seventh Int. Conf. on Mathematical Problems in Engineering Aerospace and Sciences, Genova, Italy, June 25-27 2008, Cambridge Scientific Publishers Ltd.

- 2009 | Zimont V.L., Pagnini G., Lagrangian properties of diffusion in the theory of turbulent combustion. in K. Hanjalić, Y. Nagano and S. Jakirlić (Editors): *Turbulence, Heat and Mass Transfer 6*, International Symposium, Rome, September 14–18, 2009. Accepted.
- 2007 | Mainardi F., Mura A., Pagnini G., Gorenflo R., Sub-diffusion equations of fractional order and their fundamental solutions. in K. Tas, J. A. Tenreiro-Machado, D. Baleanu (Editors): *Proceedings of Mathematical Methods in Engineering*, International Symposium, Ankara, Turkey, April 27-29, 2006, Springer-Verlag, 2007, pp. 23-55.
- 2003 | Tampieri F., Pagnini G., Lagrangian models of dispersion in the atmospheric boundary layer, in G. Boffetta, G. Lacorata, G. Visconti and A. Vulpiani (Editors) *Chaos in Geophysical Flows*, ISSAOS 2001, L'Aquila, Italy, 10-14 September 2001, OTTO Editore, Torino 2003, pp. 265-277.
- 2002 | Mainardi F., Pagnini G., Gorenflo R., Probability distributions as solutions to fractional diffusion equations. in O. E. Barndorff-Nielsen (Editor): *Mini Proceedings of the 2-nd MaPhySto Conference on "Lévy Processes: Theory and Applications"*, MaPhySto (Mathematical Physics and Stochastics Centre) Dept. Mathematics, University of Aarhus, Denmark 21-25 January 2002. MISCELLANEA, No. 22, pp. 197-205, 2002. (ISSN 1398-5957)
- Mainardi F., Pagnini G., Space-time fractional diffusion: exact solutions and probability interpretation, in R. Monaco, M. Pandolfi and S. Rionero (Editors): *Waves and Stability in Continuous Media XI*, World Scientific, Singapore (2002). XI WAS-COM, Int. Conf. on *Waves and Stability in Continuous Media*. Porto Ercole, Italy, June 3–9 2001. World Scientific, Singapore 2002, pp. 296-301.
- Mainardi F., Pagnini G., 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. *Proceedings of the International Conference on "Mathematical Models and Methods for Smart Materials"*; Chairmen: M.Fabrizio, A. Hanyga and A. Morro, Cortona, Italy, June 25-29, 2001. [Series on Advances in Mathematics for Applied Sciences, Vol. 62] [Dedicated to the memory of Giorgio Gentili]

Non peer-reviewed papers	Pagnini G., Saxena R.K., On the Mellin–Barnes integral representation of Voigt profile function. <i>Forum del Berliner Mathematische Gesellschaft</i> 23 , 47–64 (2012)
Chapters in Books	Mainardi F., Pagnini G., The role of Salvatore Pincherle in the development of Fractional Calculus. in <i>Mathematicians in Bologna 1861–1960</i> , S. Coen (Editor), pp. 373–381. Springer, Basel, 2012
Reviews on Mathematical Reviews	
MR2145045	Saxena R.K., Ram J., Suthar D.L., On two-dimensional Saigo–Maeda fractional calculus involving two-dimensional H -transforms. <i>Acta Cienc. Indica Math.</i> , 30 (4), pp. 813–822 (2004)
MR2220224	Nishimoto K., N -fractional calculus of a logarithmic function and generalized hypergeometric functions. <i>J. Fract. Calc.</i> , 29 (1), pp. 1–8 (2006)
MR2224671	Saxena R.K., Ram J., Chandak S., On two-dimensional generalized Saigo fractional calculus associated with two-dimensional generalized H -transforms. <i>J. Indian Acad. Math.</i> , 27 (1), pp. 167–180 (2005)
MR2266353	Lin S.-D., Tu S.-T., Srivastava H.M., Some families of multiple infinite sums and associated fractional differintegral formulas for power and composite functions. <i>J. Fract. Calc.</i> , 30 , pp. 45–58 (2006)
MR2286840	Biacino L., Derivatives of fractional orders of continuous functions. <i>Ricerche di Matematica</i> , LIII (2), pp. 231–254 (2004)
MR2330471	Chaurasia V.B.L., Srivastava A., A unified approach to fractional calculus pertaining to H -functions. <i>Soochow J. of Math.</i> , 33 (2), pp. 211–221 (2007)
MR2332241	Chaurasia V.B.L., Patni R., Shekhawat A.S., Applications of fractional derivatives of certain special functions. <i>Soochow J. of Math.</i> , 33 (2), pp. 325–334 (2007)
MR2355703	Agrawal R., Bansal S.K., A study of unified integral operators involving a general multivariable polynomial and a product of two \bar{H} -functions. <i>J. Rajasthan Acad. Phy. Sci.</i> , 6 (3), pp. 289–300 (2007)
MR2390179	Benchohra M., Hamani S., Ntouyas S.K., Boundary value problems for differential equations with fractional order. <i>Surv. Math. Appl.</i> , 3 , pp. 1–12 (2008)

- MR2377168 | Bin-Saad M.G., Sums and partial sums of double power series associated with the generalized zeta function and their N-fractional calculus. *Math. J. Okayama Univ.*, **49**, pp. 37–52 (2007)
- MR2502297 | Zhou Y., Existence and uniqueness of fractional functional differential equations with unbounded delay. *Int. J. Dynamical Systems and Differential Equations*, **1**, pp. 239–244 (2008)
- MR2520537 | Smirnov A.V., Smirnov V.A., On the resolution of singularities of multiple Mellin–Barnes integrals. *Eur. Phys. J. C*, **62**, pp. 445–449 (2009)
- MR2561877 | Qureshi M.I., Azad S.I., Applications of Slater’s theorem for truncated Gaussian hypergeometric series. *South East Asian J. Math. Math. Sci.*, **7**, pp. 11–25 (2009)
- MR2579478 | Kiryakova V., The special functions of fractional calculus as generalized fractional calculus operators of some basic functions. *Comput. Math. Appl.*, **59**, pp. 1128–1141 (2010)
- MR2605932 | Chaurasia V.B.L., Sharma A., A study of generalized fractional integration operators with \overline{H} -functions composition on spaces $F_{p,\mu}$ and $F'_{p,\mu}$. *Anal. Stiintif. Ale Univ. "Al. I. Cuza" Din Iasi (S. N.) Matematica*, **LVI**, pp. 65–80 (2010)
- MR2666409 | Saxena R.K., Ram J., Suthar D.L., Generalized fractional integration of the Gauss hypergeometric functions. *Acta Ciencia Indica*, **XXXV** M, pp. 281–292 (2008)
- MR2666960 | Allendes P., Guerrero N., Kondrashuk I., Notte Cuello E.A., New four-dimensional integrals by Mellin–Barnes transform. *J. Math. Phys.*, **51**, 052304 (2010)
- MR2669490 | Soni R.C., Wiseman M., A study of generalized Weyl differintegral operator associated with a general class of polynomials and the multivariable H-function. *KYUNGPOOK Math. J.*, **50**, 229–235 (2010)
- MR2724900 | Singh L.S., Singh D.K., Fractional calculus of the \overline{H} -function. *Tamkang J. Math.*, **41**, 181–194 (2010)
- MR2747834 | Virchenko N., Lisetska O., Kalla S.L., On some fractional integral operators involving generalized Gauss hypergeometric functions. *Appl. Appl. Math.*, **5**, 1418–1427 (2010)
- MR2791862 | Ronghe A.K., Choudhury N., Finite integrals involving product of multivariable Jacobi polynomial and \overline{H} -function of several variables. *J. Indian Acad. Maths.*, **31**, 527–538 (2009)

- MR2790788 | Gupta M.K., Evaluation of certain finite integrals with \overline{H} -function and fractional integration. *J. Indian Acad. Maths.*, **32**, 195–207 (2010)
- MR2814912 | Chaurasia V.B.L., Singh J., Certain integral properties pertaining to special functions. *Scientia Seies A: Mathematical Scienecees*, **19**, 1–6 (2010)
- MR2839809 | Saha U.K., Arora L.K., On fractional derivatives of the product of hypergeometric function and H -function. *J. Indian Acad. Maths.*, **32**, 473–480 (2010)
- MR2739396 | Mathai A.M., Haubold H.J., Mittag–Leffler functions to pathway model to Tsallis statistics. *Integr. Transf. Spec. F.*, **21**, 867–875 (2010)
- MR2919941 | Kandu D., Summation formulae for multivariable H -function. *J. Nat. Acad. Math.*, **24**, 10–16 (2010)
- MR2933520 | Saxena R.K., Gupta R.K., Kumari M., Integrals and series expansions of the τ -generalized zeta function. *J. Indian Acad. Math.*, **33**, 309–320 (2011)
- MR2920476 | Friot S., Greynat D., On convergent series representations of Mellin–Barnes integrals. *J. Math. Phys.*, **53**, 023508 (2012)
- MR2886720 | Pooseh S., Almeida R., Torres D.F.M., Expansion formulas in terms of integer-order derivatives for the Hadamard fractional integral and derivative. *Numer. Func. Anal. Opt.*, **33**, 301–319 (2012)
- MR2935768 | Das S., Multiple Riemann sheet solution for Dynamical systems with fractional differential equations. *Int. J. Appl. Math. Stat.*, **28**, 83–89 (2012)

Conference Oral
Presentations

Pagnini G., Evolution equations for flame ball radius. FDA'10 4th IFAC Workshop on Fractional Differentiation and Its Applications. University of Extremadura, Badajoz, Spain, October 18–20, 2010.

Pagnini G., E. Bonomi, A Lagrangian formulation of turbulent premixed combustion. XCVI Congresso Nazionale Società Italiana di Fisica, Bologna, Italy, September 20–24, 2010.

Pagnini G., F. Mainardi, Evolution equations for flame ball radius. SIMAI Biannual Congress, University of Cagliari, Cagliari, Italy, June 21–25, 2010.

Pagnini G., Particle pair rotation to constrain the non-uniqueness problem in Lagrangian stochastic modelling of turbulent relative dispersion. EGU General Assembly 2008, Vienna, Austria, April 13–18, 2008 (Solicited Oral Presentation)

Pagnini G., Kernel Method in Lagrangian photochemical air quality modelling, “Energy and Environment: new challenges to mathematical modelling and applications” FIMA Second International Conference, Champoluc, Italy, January 21–24, 2008

Pagnini G., Mainardi F., The parametric evolution equation of the generalized Voigt profile function, “Special Functions, Information Theory and Mathematical Physics”, Granada, Spain, September 17–19, 2007

Pagnini G., Vitali L., Monforti F., Zampieri M., Zanini G., The Effects of shear and convective turbulent dispersion on chemically reactive puffs, “Research school on The role of atmospheric boundary layer processes in atmospheric chemistry”, Castelldefels, Spain, November 20–24, 2006

Workshop and Seminars

Pagnini G., Non-Markovian stochastic modelling for turbulent relative dispersion. International Symposium *Wellen, Diffusion und Turbulenz* (Waves, Diffusion and Turbulence). Berliner Mathematische Gesellschaft (Berlin Mathematical Society), Berlin, Germany, September 26–28 2012.

Pagnini G., A Lagrangian approach for reacting front propagation in turbulent flows. BCAM - Basque Center for Applied Mathematics, Bilbao, Spain, July 19 2012.

Pagnini G., Governing equations for the growing of the radius of a flame ball in normal and anomalous diffusive media. International Workshop *Methods and Problems in Mathematical Physics*. Dipartimento di Statistica e Probabilità, University of Rome La Sapienza, May 20–21 2011.

Pagnini G., Non-Markovian stochastic modelling for nonlinear systems: Dispersion and stretching in turbulent flows. Department of Physics, University of Bologna, May 19 2011.

Pagnini G., Non-Markovian stochastic modelling of material line stretching and relative dispersion in turbulent flow. Workshop SIMAI Giovani *Prospettive di Sviluppo della Matematica Applicata in Italia 2011*, Rome, CNR, April 8, 2011.

Pagnini G., Mellin transform and its applications in mathematical physics. Seminars cycle at Department of Physics, University of Cagliari, December 21–23, 2010.

Pagnini G., Microscopic formulation of turbulent propagation of a chemically reactive front. Department of Physics, University of Cagliari, May 25, 2010.

Pagnini G., Fractional differential equations in combustion science: A new challenge for fractional analysts. Int. Workshop *Methods and Problems in Mathematical Physics*, Bologna, 26–27 March, 2010.

Pagnini G., Evolution equations of fractional orders in physics. Department of Physics, University of Bologna, March 26, 2010.

Pagnini G., Lagrangian stochastic models for the analysis of concentration fluctuations in turbulent flows. Workshop SIMAI Giovani *Prospettive di Sviluppo della Matematica Applicata e Industriale in Italia 2009*, Rome, October 9, 2009.

Pagnini G., Lagrangian stochastic models for turbulent relative dispersion. ISAC-CNR, Bologna, June 18, 2009

Pagnini G., The generalized Voigt profile function in spectroscopy: a fractional calculus approach. Department of Physics, University of Bologna, March 5, 2009

Pagnini G., Relations between Eulerian and Lagrangian density function in turbulent flows. GNFM Scientific Assembly, Montecatini Terme (PT), Italy, October 11–13, 2007

Pagnini G., Special functions via Mellin–Barnes integrals, Interdisciplinary workshop “From waves to diffusion and beyond”, Bologna, Italy, December 20, 2002

Posters and Abstracts

Pagnini G., Massidda L., Random level-set method to model fire-induced turbulent flow in wildland fire propagation. Poster at International Conference on Fire Behaviour and Risk Modelling, Alghero (SS), Italy, October 4–6 2011

Zimont V.L., Pagnini G., Two Lagrangian properties of turbulent diffusion with a key role in premixed combustion modelling. Poster at Seventh Mediterranean Combustion Symposium, Chia (CA), Italy, September 11–15 2011

Zimont V.L., Pagnini G., Lagrangian properties of diffusion in the theory of turbulent combustion. Poster at 6th International Symposium on Turbulence, Heat and Mass Transfer, Rome, September 14–18 2009

Pagnini G., Particle pair rotation to constrain the non-uniqueness problem in Lagrangian stochastic modelling of turbulent relative dispersion. *Geophys. Res. Abstracts* **10**, EGU2008-A-08518 (2008). EGU General Assembly 2008, Vienna, Austria

Pagnini G., Zampieri M., Bi-Gaussian model for the fourth order moments in the convective boundary layer. Poster at VI Meeting EMS, Lubiana (Slovenia), September 4–8 2006. <http://meetings.copernicus.org/ems2006>

Maurizi A., Pagnini G., Tampieri F., Fokker–Planck properties for turbulent relative dispersion modelling. *Geophys. Res. Abstracts* **6**, 03440 (2004). EGU General Assembly 2004, Nice, France

Mainardi F., Pagnini G., Vivoli A., Risultati recenti per l'equazione della diffusione frazionaria. XVII Congresso U.M.I., Milan, Italy, September 8–13 2003, p. 200. www.umi2003.matapp.unimib.it/b/b.htm

Personal Skills and Competences

Mother tongue(s)

Self-assessment
European level^()*

English

^(*) *Common European*
Framework of Reference (CEF)
level

Technical Skills and Competences

Informatics

OS

Software

Programming

Italian

Understanding		Speaking		Writing
Listening	Reading	Spoken interaction	Spoken production	
C1 Proficient user	C2 Proficient user	C1 Proficient user	C2 Proficient user	C2 Proficient user

Linux, Mac, Windows

Open Office, GNU Plot, Microsoft Office

Fortran, LaTeX