CURRICULUM VITAE of VIERI MASTROPIETRO

Personal Data

- Firenze, 11 luglio 1966. Italian
- Full professor of Mathematical physics at the University of Milano, Math Dept. (since 2012)

Honors

- Invited speaker al the *International Congress of Mathematicians ICM2010*, Hyderabad, India
- Plenary speaker al the *International Conference of Mathematical Physics ICMP2009*, Prague
- Invited speaker at the *International Conference of Mathematical Physics ICMP2000*, Londra
- Annales Poincarè Prize 2006 mathematical physics (with G.Benfatto and A.Giuliani)
- Persico Prize of the"Accademia dei Lincei" (1987 ed 1989)
- Member of the scientific board of the CMTP Levi Civita.
- Director of the Seminario Matematico e Fisico di Milano (since 2015)
- Director of the PHD program in mathematical sciences of the university of Milano (since 2016)
- Annales Poincarè Prize 2018 probability (with A.Giuliani and F.Toninelli)

Editorial Activity

- Section Editor of Annales Henri Poincare'(Birkhauser) since 2008, section "Multiscale mutheds of Mathematical Condensed Matter"
- Managing Editor of the Milan Journal of Mathematics (Birkhauser) since 2015.
- Editor of Communications in Pure and Applied Analysis (2002-2010)

PHD students

- A.Giuliani (2005) Now full Professor in Rome 3
- P.Falco (2006) Professor at university of Califormia
- M. Porta (2010) Now full professor in Tubingen

PHD Courses

- *Lecture Course on the Renormalization Group*, Heriot-Watt University, Edimburgo (2005)
- *Lecture course on Renormalization Group*, University of Brasilia, Center of Condensed matter (2009)
- *Summer school on current topics in Mathematical Physics* ESI, Vienna, 16- 24 10 2011. *Universality and Critical behavior in Luttinger and Dirac liquids.*

Visits (last 15 years)

- 15/4- 15/5 2002 (1 month). Short term visitor, School of Mathematics, Institute for Advanced Study, Princeton, USA.
- 25/3-6/4 2003 GeorgiaTech, Atlanta, US.
- 15/4-15/5 2003 (1 moth) Short term visitor, School of Mathematics, Institute for Advanced Study, Princeton, USA.
- 1/9- 12/9 2003. Erwin Schroedinger Institute, Vienna
- 10/5/2005-30/5/2005 (1 month) Heriot-Watt University, Edimburgo (2005)
- 27/11/2005- 23/12/2005, Short term visitor, School of Mathematics, Institute for Advanced Study, Princeton, US
- 17/10/2007-3/12/2007 (2 months), Erwin Schroedinger Institute, Vienna
- 10/10/2008-31/10/2008, Rutgers University, New Brunswick,US
- 1/11 2009-15/11 2009, Brasilia University, Center of Condensed matter
- 17/11/2009-15/12 2009 Rutgers University,New Brunswick,USA
- 15/11- 15/12 2011 (1 month). Short term visitor, Institute for Advanced study, Princeton
- 7/4- 15/4 2013, GeorgiaTech, Atlanta, USA
- 15/4- 15/5 2013 (1 month), Short term visitor, Rutgers University, New Brunswick, USA
- 1/10- 30/10 2014 (1 month) Short term visiting professor, International Institute of Physics, Natal (Brasile)

- 16/12- 22/12/2014 Short term visitor, Institute for Advanced studies, Princeton
- 11/10- 24/10/2016 Short term visitor, Institute for Advanced studies, Princeton
- 30/4- 14/5/2017 Short term visitor, Institute for Advanced studies, Princeton
- 1/12- 7/122017 Gatech Atlanta

Grants

- Senior member of ERC Starting Grant CoMBoS-239694 (P.I G.Giuliani) 2009
- Senior member of ERC Consolidator Grant 2016 (P.I G.Giuliani) UniCoSM - Universality in Condensed Matter and Statistical Mechanics

Organized conferences (selection)

- Program "Applications of the Renormalization group" at tha Schroedinger Institut di Vienna (with H. Grosse, G. Gentile, G. Huisken) (2007)
- Les Houches Summer school 2010 "Quantum theory from small to large scales" (with J. Frohlich, W. de Roeck, M. Salmhofer)
- CIME School "Quantum many body systems" Cetraro 2010 (with A.Giuliani e J. Yngvason.)
- international Conference LNF-CMTP "Quantum Field Theory aspects of Condensed Matter physics" Laboratori Nazionali di Frascati September 6-9 2011 (with M.Lombardo ed M. Vozmediano)
- International Conference LNF-CMTP "Mechanics: Classical, Statistical and Quantum" Roma, la Sapienza, June 2-5 2012 (with A. Giuliani e G.Gentile)
- International Conference LNF-CMTP "Disordered Systems and Random Matrix Theory, Un. Roma 3 March 14-15, 2013 (with A. Giuliani and M. Lombardo)
- Recent results and open problems in mathematical physics, 13-2-2015, GSSI, L'Aquila (with E. Presutti, A. Giuliani)
- Localization and reducibility in Hamiltonian PDEs and Quantum Mechanics Milano, December 16-18, 2015 (with Bambusi e Noja)
- Section "Condensed Matter" at the International Conference of Mathematical Physics 2015, 27/7-1/8 2015 Santiago Cile (with S. Warzel).
- Advisory Board Member and organizer of the session Many body at QMATH13, 8,11 october 2016, Atlanta, USA. (with G Berkolaiko, R Frank, B Nachtergaele, M Ruskai, S Warzel)
- INdAM-CMTP-INFN Intensive trimester Mathematics and Physics at the Crossroads Laboratori Nazionali di Frascati-INFN and INdAM, Roma, Italy June 6–September 30, 2016
- Workshop Condensed Matter and Critical Phenomena Laboratori Nazionali di Frascati-INFN, Italy, September 5-7, 2016 (with Giuliani e Pizzo)
- EMS IAMP Summer School in Mathematical Physics Universality, Scaling Limits and Effective Theories July 11 15, 2016, Roma (Italy) (with Correggi, Giuliani Pizzo)

Invited speaker (selection, since 2005

- 18/12–20/12 2005. Statistical Mechanics Conference", Rutgers University, New Brunswick, USA. Anomalies and Ward Identities in lattice spin models
- 9/4–15/4 2006. "The Rigorous Renormalization Group", Oberwolfach, Germania. Non perturbative anomalies in QFT
- 25/6–18/6 2006. th AIMS international conference", Poiters, Francia. Renormalization Group approach to PDE
- 18/9-22/9, 2006 "III international conference on Exact Renormalization Group", Lefkadfa (Grecia). Rigorous construction of the Tomonaga model
- 14/12-20/12, 2006 "Conference of statistical physics", Trieste. Rigorous construction of the Ashkin-Teller model
- 12/11–18/11 2007. "Renormalization in Quantum Field Theory, Statistical Mechanics and Condensed Matter", ESI, Vienna. Schwinger-Dyson equations, Ward Identities and anomalies in nonperturbative RG

- 27/3 2008. Swiss Physical Society-Manep meeting", Ginevra.Proof of Fermi liquid behavior in the 2D Hubbard model"
- 30/9-3/10 2008 "Quantum many-body systems: Bose-Einstein condensation", Centre de Recherches Mathematiques di Montreal. 2D Hubbard model on a the square and the honeycomb lattice
- 5/10/2008 "Probability session" (D.Brydges and A.Kenyon) "American Mathematical Society Western Section Meeting" alla British Columbia University, Vancouver. Extended scaling relation for planar spin models
- 6-10/10/2008 "The renormalization group and statistical mechanics", Pacific Institute for Mathematical Sciences, Vancouver. Rigorous Construction of the ground state correlations of the Hubbard model on the honeycomb lattice
- 1-7/8/2009 International Conference of Mathematical Physics, Prague. Universality, Ising models, and the non renormalization of the quantum anomalies.
- 16-18/6/2010 Renormalization: algebraic, geometric and probabilistic aspects, Institut Camille Jordan (Lyon) Developments in the theory of universality
- 26/8–30/8/2010 International Congress of Mathematicians, Hyderabad. Universality, Phase transition and extended scaling relations
- 28/5–1/6 2012 Quantum Many-Body Systems CRM, Vancouver Universal properties of graphene
- 8/6–10/6 2012 Journee Jacques Magnen Ecole Polytechnique, Parigi, Francia. The vanishing of Beta function by Ward Identities)
- 12/5-14/5 2013 Rutgers University, USA. The 109th Statistical Mechanics Conference. Universal Conductivity Properties In Many Body Physics.
- 27/5-31/5 2013 Analytical aspects of mathematical Physics, ETH, Zurigo. Universality Results in Statistical Physics
- 16/9-20/9 2013.International Conference on Applied Mathematics, Heraklion, Universality results in statistical physics
- 5/5-6/5 2014 New frontiers for Majorana fermions from condensed to dark matter. INFN Frascati National Laboratories. Majorana fermions and universality
- 1/9-5/9 2014 Selected Problems in Mathematical Physics La Spezia. Localization in an interacting quasi periodic fermionic chain.
- 14/12-16/12 2014. Rutgers University, USA The 112th Statistical Mechanics Conference.Localization in many body interacting quasi-pe.riodic chain e Laudatio for G. Gallavotti.
- 13/7-17/7 2015 "Quantum many-body systems, random matrices, and disorder" Schroedinger Institut, Vienna. Localization for interacting quasi periodic fermions.
- 5/6-18/6 2016 "Quantum non-equilibrium phenomena" International Institute of Physics, Natal, Brasile. Title; Localization of interacting fermions with quasi-random disorder
- 3/8-9/8 2016 " Conference on Interactions and Topology in Dirac Systems" International Center Theoretical Physics, Trieste. Title: Universal transport properties of interacting lattice Dirac systems
- 8-11 october 2016 QMath13: Mathematical Results in Quantum Physics tLocalization of Interacting Fermions in the Aubry-Andr Model
- 20-24 February 2017: Trieste Quantum Days. Sissa Localization of interacting fermions with quasi-random disorder
- 7-9 May 2017 Rutgers University, USA The 117th Statistical Mechanics Conference. Localization in coupled chain with quasi-random disorder
- 29 may-2 june 2017 Mathematical Aspects of Disordered Systems. ETH-Zurigo MADS Workshop / Summer School Localization of interacting fermions with quasi-periodic disorder
- 7 june-9 july 2017 Geometry of integrable systems. Sissa; Trieste Time evolution of a solvable quantum many body system
- 10 july-14 july 2017 Conference on many body localization. ICTP; Trieste Interacting Fermions with Quasi-random Disorder: A Quantum KAM
- 6 july-10 november 2017 The Message of Quantum Science II. ZIF, Bielefeld Universality in DIrac materials
- 24-28 march 2018 Currenti Problems in theoretical Physics, Vietri (Italy). Anomalies, Constructive QFT and Universality in solid state physics

- 23-28 July 2018. ICMP 2018. Montral (Ca). Laudatio for Giovanni Gallavotti-Poicare' prize.
- 3-7 September 2018, Newton Institite. Renormalisation in quantum field theory and in stochastic partial differential equations: a gentle introduction and some recent developments. Cambridge (UK). Universality in solid state physics and Constructive Renormalization Group
- 3-5 October 2018, Critical Phenomena in Statistical Mechanics and Quantum Field Theory. Princeton Center for Theoretical Physics, Princeton (US). Small Divisors, Diophantine Numbers and Interacting Quantum Many Body Systems

Seminars (selection, since 2002)

- 24/4 2002 Statistiical mechanics seminar at the Institute for Advanced Studies, Princeton. Title: Renormalization Group and Ward identities for interacting fermionic systems.
- 20/5 2005. Durham University, UK. Title: Renormalization Group construction of quantum eld theories
- 30/4 2008 Colloquium in Theoretical physics at the Albanova and Nordita universities,Stockholm. Title:Luttinger and Fermi liquids: a Constructive Renormalization Group approach
- 8/10/ 2008 University of British Columbia probability seminar. The Hubbard model on the square and honeycomb lattice by functional integral methods
- 16/10 2008 Mathematical Physics seminar, Rutgers university. Extended scaling relations for planar lattice spin models
- 26/3 2009 Instituto de Ciencia de Materials de Madrid. Rigorous construction of ground state correlation in graphene
- 29/9/2009 ETH, Zurich. Theoretical Physics seminar. Universal relations and Ward Identities in interacting Ising models, spin chains and graphene models
- 1/12/2009 Princeton University, Mathematical Physics seminar. Universal Relations for Non Solvable Statistical Models
- 3/12/2009 Rutgers university, Mathematical Physics seminar . Developments in the theory of universality
- 7/12/2011 Princeton University, Statistical Physics seminar. Universal conductivity in graphene: some rigorous result and open problems
- 8/12/2011 Rutgers university, Mathematical Physics seminar . Universal conductivity in graphene
- 18/4/2012 KTH/Nordita/SU seminar in theoretical physics. Stoccolma Universal conductivity in graphene
- 12/4/2013 GeorgiaTech, Atlanta,USA Universal Conductivity Properties In Many Body Physics
- 6/4/2013 MATH PHYS Seminar, Princeton university, USA. Universal nite size corrections and the central charge in non solvable Ising models
- 12/4/2013 GeorgiaTech, Atlanta,USA Universal Conductivity Properties In Many Body Physics
- 16/4/2013 MATH PHYS Seminar, Princeton university, USA.Universal finite size corrections and the central charge in non solvable Ising models.
- 25/4/2013 MATH PHYS Seminar, Rutgers university, USA Conductivity In The XXZ Heisenberg Chain With Next To Nearest Neighbor Interaction
- 9/5 2014 The BFZ Seminar in Analysis - Basel, Fribourg, Zurich, Zurich University, Universality in graphene and Weyl semimetals.
- 20/10/2014 International Institute Physics Natal, Brasile. Universal Conductivity Propeties in Graphene and Weyl semimetals
- 18/2/2015 Height fluctuations for interacting dimers , INFN Theory group seminars, Firenze
- 12/2/2015. Small divisors in an interacting fermionic quasi-periodic chain. Gran Sasso Science Center GSSI, L'Aquila
- 21/10 2015. Localization-Delocalization transition in an interacting quasi-periodic fermionic chain. ICTP/SISSA Statistical Physics seminar, ICTP, Trieste
- 19/5/2016 Zurich University Localization in interacting fermionic chain with quasi random disorder
- 18/10/2016 Princeton Mathematical Physics Seminar. Localization of interacting fermions with quasi random disorder
- 20/10/2016 Rutgers Mathematcal physics conference "Steady States in the non local Luttinger Model"
- 22/05/2017 Sissa Mathematical Colloquium: Localization of interacting quantum particles with quasi-random disorder

Books

- V.Mastropietro: Non perturbative renormalization World Scientic (2008)
- Quantum Theories from Small to Large Scales. J. Frohlich, V. Mastropietro, W. de Roeck, M. Salmhofer, L. Cugliandolo, eds. Les Houches School of Physics, Session 95 Oxford University Press
- Quantum many body systems A.Giuliani, J.Yngvanson V.Mastropietro ed. Springer (2012).
- Luttinger Model: The First 50 Years and Some New Directions V.Mastropietro, D. Mattis. World Scientic (2013)

Articles (selection)

- E Langmann, JL Lebowitz, V Mastropietro, P Moosavi Time evolution of the Luttinger model with non-uniform temperature profile Phys. Rev B 2017
- V. Mastropietro Coupled identical localized fermionic chains with quasirandom disorder Phys. Rev. B 95, 075155 (2017)
- A. Giuliani, V. Mastropietro, F. Lucio Toninelli (2017). Haldane relation for interacting dimers. JOURNAL OF STATISTICAL MECHANICS: THEORY AND EXPERIMENT, vol. 2017, 034002,
- A. Giuliani, V. Mastropietro, F.L. Toninelli (2017). Height fluctuations in interacting dimers. ANNALES DE L'INSTITUT HENRI POINCARE-PROBABILITES ET STATISTIQUES, vol. 53, p. 98-168, ISSN: 0246-0203, doi: 10.1214/15-AIHP710
- V. Mastropietro (2017). Localization in Interacting Fermionic Chains with Quasi-Random Disorder. COMMUNICATIONS IN MATHEMATICAL PHYSICS, vol. 321, p. 283-309
- E. Langmann, J.L. Lebowitz, V. Mastropietro, P. Moosavi (2017). Steady States and Universal Conductance in a Quenched Luttinger Model. COMMUNICATIONS IN MATHEMATICAL PHYSICS, vol. 349, p. 551-582
- A. Giuliani, V. Mastropietro, M. Porta (2017). Universality of the Hall Conductivity in Interacting Electron Systems. COMMUNICATIONS IN MATHEMATICAL PHYSICS, vol. 349, p. 1107-1161
- V. Mastropietro (2016). Dense gaps in the interacting Aubry-Andr model. PHYSICAL REVIEW. B, vol. 93, p. 1-8,
- V. Mastropietro (2016). Interacting spinning fermions with quasi-random disorder. ANNALEN DER PHYSIK
- V. Mastropietro (2016). Localization in the ground state of an interacting quasi-periodic fermionic chain. COMMUNICATIONS IN MATHEMATICAL PHYSICS, vol. 342, p. 217-250, ISSN: 0010-3616, doi: 10.1007/s00220-015-2498-2
- F. Bonetto, V. Mastropietro (2016). Quantum Phase Transition in an Interacting Fermionic Chain. ANNALES HENRI POINCARE', vol. 17, p. 459-495
- A. Giuliani, V. Mastropietr , F. Toninelli (2015). Height fluctuations in non-integrable classical dimers. EUROPHYSICS LETTERS, vol. 109, p. 1-5,
- V. Mastropietro (2015) Localization of interacting fermions in the Aubry-Andre'model. PHYSICAL REVIEW LETTERS, vol. 115, p. 1-5, ISSN: 0031-9007
- V. Mastropietro, Z. Wang (2015). Quantum quench for inhomogeneous states in the nonlocal Luttinger model. PHYSICAL REVIEW. B, CONDENSED MATTER AND MATERIALS PHYSICS, vol. 91, p. 1-6
- V. Mastropietro (2014). Interacting Weyl semimetals on a lattice. JOURNAL OF PHYSICS. A, MATHEMATICAL AND THEORETICAL, vol. 47, p. 1-20,
- G. Benfatto, P. Falco, V. Mastropietro (2014). Universality of One-Dimensional Fermi Systems, II : The Luttinger Liquid Structure. COMMUNICATIONS IN MATHEMATICAL PHYSICS
- G. Benfatto, V. Mastropietro, P. Falco (2014). Universality of one-dimensional Fermi Systems, I. Response functions and critical exponents. COMMUNICATIONS IN MATHEMATICAL PHYSICS,
- V. Mastropietro (2014). Weyl semimetallic phase in an interacting lattice system. JOURNAL OF STATISTICAL PHYSICS, vol. 157, p. 830-854
- V. Mastropietro (2013). Conductivity in the Heisenberg chain with next-to-nearest-neighbor interaction. PHYSICAL REVIEW E, STATISTICAL, NONLINEAR, AND SOFT MATTER PHYSICS, vol. 87, p. 1-8

- A. Giuliani, V. Mastropietro (2013). Universal Finite Size Corrections and the Central Charge in Non-solvable Ising Models. COMMUNICATIONS IN MATHEMATICAL PHYSICS, ISSN: 0010-3616, doi: 10.1007/s00220-013-1752-8
- I. Herbut, V. Mastropietro (2013). Universal conductivity of graphene in the ultra-relativistic regime. PHYSICAL REVIEW. B, CONDENSED MATTER AND MATERIALS PHYSICS, vol. 87, p. 1-5,
- V. Mastropietro (2013). Universality, exponents and anomaly cancellation in disordered Dirac fermions. NUCLEAR PHYSICS. B, vol. 875, p. 408-422
- L. Costa, A. Ferraz, V. Mastropietro (2013). Ward identities and chiral anomalies for coupled fermionic chains. JOURNAL OF MATHEMATICAL PHYSICS, vol. 54, p. 1-19
- A. Giuliani, V. Mastropietro (2012). Exact renormalization group computation of the optical conductivity of graphene. PHYSICAL REVIEW. B, CONDENSED MATTER AND MATERIALS PHYSICS, vol. 85, p. 1-8
- V. Mastropietro (2012). LUTTINGER MODEL AND LUTTINGER LIQUIDS. INTERNATIONAL JOURNAL OF MODERN PHYSICS B, vol. 26
- A. Giuliani, V. Mastropietro, M. Porta (2012). Lattice quantum electrodynamics for graphene. ANNALS OF PHYSICS, vol. 327, p. 461-511
- A. Giuliani, R. Greenblatt, V. Mastropietro (2012). The scaling limit of the energy correlations in non-integrable Ising models. JOURNAL OF MATHEMATICAL PHYSICS, vol. 53, 095214
- V. Mastropietro (2012). Universal conductivity and dimensional crossover in multi-layer graphene. EUROPHYSICS LETTERS, vol. 97, ISSN: 0295-5075, doi: 10.1209/0295-5075/97/37003
- A. Giuliani, V. Mastropietro, M. Porta (2012). Universality of Conductivity in Interacting Graphene. COMMUNICATIONS IN MATHEMATICAL PHYSICS, vol. 311, p. 317-355
- A. Giuliani, V. Mastropietro, M. Porta (2011). Absence of interaction corrections in the optical conductivity of graphene. PHYSICAL REVIEW. B, CONDENSED MATTER AND MATERIALS PHYSICS, vol. 83, p. 1-6
- V. Mastropietro (2011). Conductivity between Luttinger liquids: coupled chains and bilayer graphene. PHYSICAL REVIEW. B, CONDENSED MATTER AND MATERIALS PHYSICS, vol. 84, p. 1-8
- G. Benfatto, V. Mastropietro (2011). Drude Weight in Non Solvable Quantum Spin Chains. JOURNAL OF STATISTICAL PHYSICS, vol. 143, p. 251-260
- A. Giuliani, V. Mastropietro, M. Porta (2010). Anomalous Behavior in an Effective Model of Graphene with Coulomb Interactions. ANNALES HENRI POINCARE', vol. 11, p. 1409-1452
- V. Mastropietro (2010). Developments in the theory of universality. JOURNAL OF MATHEMATICAL PHYSICS, vol. 51, ISSN: 0022-2488, doi: 10.1063/1.3274807
- A. Giuliani, V. Mastropietro (2010). The Two-Dimensional Hubbard Model on the Honeycomb Lattice. COMMUNICATIONS IN MATHEMATICAL PHYSICS, vol. 293, p. 301-346
- G. Benfatto, P. Falco, V. Mastropietro (2010). Universal Relations for Nonsolvable Statistical Models. PHYSICAL REVIEW LETTERS, vol. 104, ISSN: 0031-9007, doi: 10.1103/PhysRevLett.104.075701
- G. Benfatto, V. Mastropietro (2010). Universality Relations in Non-solvable Quantum Spin Chains. JOURNAL OF STATISTICAL PHYSICS, vol. 138, p. 1084-1108,
- G. Benfatto, P. Falco, V. Mastropietro (2009). Extended Scaling Relations for Planar Lattice Models. COMMUNICATIONS IN MATHEMATICAL PHYSICS, vol. 292, p. 569-605,
- G. Benfatto, P. Falco, V. Mastropietro (2009). Massless Sine-Gordon and Massive Thirring Models: Proof of Coleman's Equivalence. COMMUNICATIONS IN MATHEMATICAL PHYSICS, vol. 285, p. 713-762
- A.GIULIANI, MASTROPIETRO V (2009). Rigorous construction of ground state correlations in graphene: renormalization of the velocities and Ward Identities. PHYSICAL REVIEW. B, CONDENSED MATTER AND MATERIALS PHYSICS, vol. 79, p. 201403-201407,
- V. Mastropietro: "Ising models with four spin interaction at criticality." *Comm. Math. Phys.* 244, 3 , 595–642 (2004)
- V. Mastropietro: "Non Universality in Ising models with four spin interaction." *J. Stat. Phys.*, 111, 201-259 (2003)
- A. Giuliani, V. Mastropietro: "Anomalous universality in the Anisotropic Ashkin Teller model." *Comm. Math. Phys.* 256, 3, 681–735 (2005).

- A. Giuliani, V. Mastropietro: "Anomalous critical exponents in the anisotropic Ashkin–Teller model. " *Phys. Rev. Lett.* 93, 190603–190607 (2005)
- G.Benfatto, P Falco, V.Mastropietro. "Functional Integral Construction of the Massive Thirring model" *Comm.Math. Phys.* 273, 1, 67–118 (2007).
- V.Mastropietro. " Renormalization Group and Ward Identities for Infrared QED4" *J.Math.Phys.* 48, no. 10, 102303 (2007)
- V.Mastropietro. "Non perturbative Adler-Bardeen Theorem" *J. Math. Phys.* 48, 2, 22302-22334 (2007).
- V.Mastropietro."Non-perturbative aspects of chiral anomalies." *J. Phys. A* 40, 33, 10349–10365 (2007)
- F.Bonetto, V. Mastropietro: "Critical Indices for the Yukawa2 model", *Nucl.Phys.B*, 497, 541-554 (1997).
- V.Mastropietro: "Schwinger functions in Thirring and Luttinger models", *Nuovo Cim.* vol.109B, N.10, (1993).
- V.Mastropietro: "Mass generation in a fermionic model with finite range time dependent interactions." *Comm. Math. Phys.* 269, 2, 401–424 (2007)
- V.Mastropietro: "Luttinger liquid fixed point for a 2D flat Fermi surface" *Phys.Rev. B* 77, 195106 (2008)
- V.Mastropietro: " Spin-Charge separation in two dimensions" *EPL* 84 57005 (2008)
- P.Falco, V.Mastropietro. "Renormalization Group and asymptotic spin-charge separation for Chiral Luttinger liquids" *J.Stat.Phys.* 131,79–116,(2008)
- V.Mastropietro. " The absence of Logarithmic corrections in the 1d Hubbard model." *J. Phys. A* 40, 13, 3347–3368 (2007)
- G. Benfatto, A. Giuliani, V. Mastropietro. "Fermi liquid behavior in the 2D Hubbard model at low temperatures." *Ann. Henri Poincare'* 7, 5, 809–898 (2006) (*premio AHP 2006*)
- V. Mastropietro: " Rigorous proof of Luttinger liquid behavior in the 1d Hubbard model." *J. Stat. Phys.* 121, 3-4, 373–432 (2005).
- G. Benfatto; V. Mastropietro. "Ward identities and chiral anomaly in the Luttinger liquid." *Comm. Math. Phys.* 258, 3, 609–655 (2005)
- G.Benfatto, V. Mastropietro: "Rigorous analysis of the Tomonaga model by means of Ward identities and the renormalization group", letter, April (2005) *J. Stat. Mech.*
- G. Benfatto, V. Mastropietro. "Ward identities and vanishing of the beta function for $d = 1$ interacting Fermi systems." *J. Statist. Phys.* 115, 1-2, 143–184 (2004).
- G. Benfatto, A. Giuliani, V. Mastropietro: "Low temperature analysis of two-dimensional Fermi systems with symmetric Fermi surface." *Ann. Henri Poincare'* 4, 1, 137–193 (2003).
- V. Mastropietro: "Marginal Fermi liquid behaviour in the $d = 2$ Hubbard model with cut-off." *Ann. Henri Poincare'* 3, 6, 1183–1213 (2002).
- G. Benfatto; V. Mastropietro: "On the density-density critical indices in interacting Fermi systems". *Comm. Math. Phys.* 231, 1, 97–134 (2002).
- V. Mastropietro. "Peierls instability with electron-electron interaction': the commensurate case." *Commun. Pure Appl. Anal.* 1, 2, 135–159 (2002).
- G. Gallavotti, J. Lebowitz, V. Mastropietro. "Large deviations in rarefied quantum gases." *J. Stat. Phys.* 108, 5-6, 831–861 (2002).
- V.Mastropietro: "Incommensurate Charge Density Waves in the adiabatic Hubbard- Holstein model" *Phys. Rev.B 65*, 75113, (2002)
- G. Benfatto, V.Mastropietro: "Renormalization group, hidden symmetries and Ward identities for the XYZ model", *Rev. Math. Phys*, Vol. 13, 11.1323-1435 (2001).
- G.Gentile, V.Mastropietro: "Renormalization group for fermions: a review on mathematical results.", *Physics Reports* 352 , 4-6, 273–437 (2001).
- G.Gentile, V.Mastropietro: "Anderson localization for the Holstein model". *Comm. Math. Phys.* 1,215,69-118 (2000)
- V.Mastropietro: "Anomalous superconductivity for coupled Luttinger liquids", *Rev. Math. Phys.* 12, 12 1627-1654 (2000)
- V.Mastropietro: "Small denominators and anomalous behaviour in the incommensurate Holstein-Hubbard model", *Comm. Math. Phys.*, 201, 81-115 (1999)

- V.Mastropietro: "Renormalization group for the XYZ model", *Lett. in Math. Phys.*, 47, 339-352, (1999).
- V.Mastropietro, "Anomalous BCS equation for a Luttinger superconductor", *Mod. Phys. Lett. B* 13, 17 585-597 (1999)
- G.Benfatto,G.Gentile,V.Mastropietro "Peierls instability for the Holstein model with rational density" *J. Stat. Phys.* 92, 1071-1113 (1998).
- G.Benfatto, G.Gentile, V. Mastropietro: "Electrons in a lattice with incommensurate potential" *J. Stat. Phys.*, 89, 655-708 (1997)
- F.Bonetto, V. Mastropietro: "Critical indices in a $d = 1$ filled band Fermi systems", *Phys. Rev. B* 56,3,1296-1308 (1997)
- F.Bonetto, V.Mastropietro: "Filled band Fermi systems" *Mat.Phys.Elect.Jour* 2, 1–43 (1996)
- F.Bonetto,V.Mastropietro: "Beta Function and anomaly of the Fermi surface for a d=1 system of interacting fermions in a periodic potential", *Comm. Math. Phys*, 172, 57-93 (1995)
- V.Mastropietro: "Interacting soluble Fermi systems in one dimension", *Nuovo Cim.* 109B, 1, (1994)
- G.Benfatto, G.Gallavotti, V.Mastropietro: "Renormalization group and the Fermi surface in the Luttinger model", *Phys. Rev. B* 45, 10, 5468-5480 (1992).
- V. Mastropietro, M. Procesi. "Lindstedt series for periodic solutions of beam equations with quadratic and velocity dependent nonlinearities." *Commun. Pure Appl. Anal.* 5 , 1, 1–28 (2006)
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