

# CURRICULUM VITAE

## Personal Data

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- Name: Vieri Mastropietro

## Education and positions

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- 1990 Laurea in Fisica, Roma La Sapienza (rel. G. Gallavotti)
- 1990-1993 Dottorato in Fisica, Pisa (rel. G. Gallavotti)
- 1993-1996 INDAM and CNR postdoc, Roma Tor Vergata
- 1996-2000 Researcher in Mathematical Physics, Roma Tor Vergata
- 2000 3 months Chercheur at CNRS-Ecole Polytechnique, Paris
- 2000-2012 Associate Professor in Mathematical Physics, Roma Tor Vergata
- 2012-now Full Professor in Mathematical Physics, Università statale di Milano

## Prizes and honors

- Invited speaker at the *International Congress of Mathematicians ICM2010*, Hyderabad, India
- Member of the Institute of Advanced Study, School of Math, Princeton (2022)
- Annales Poincaré Prize 2006 mathematical physics (with G.Benfatto and A.Giuliani)
- Annales Poincaré Prize 2018 probability (with A.Giuliani and F.Toninelli)
- ICMP 2018. Montreal Laudatio for Giovanni Gallavotti-Poincaré' prize.
- Persico Prize of the "Accademia dei Lincei" (1987 ed 1989)

## Grants

- Principal investigator of PRIN Mathematical Interacting Quantum Fields (MaIQuFi) 2022-2024 (250.806 E)
- Principal investigator of PRIN Mathematical Quantum Matter (MaQuMa) 2019-2022 (286000E)
- Senior member of ERC 2009 Starting Grant CoMBoS; Consolidator Grant 2016 UniCoSM

## Activities

- Director of the PHD program in mathematical sciences of the university of Milan (2015-2021)
- Director of the Seminario Matematico e Fisico di Milano (2015-2018)
- Member of the Scientific Direction of the GNFM (Gruppo Nazionale Fisica Matematica) (2021-now)
- Member of the scientific commission of the math. department UNIMI (2012-now) and ROME2 (2006-2012)

## Editorial activity

- Editor of Annales Henri Poincaré'(Birkhauser) since 2008, section "Multiscale methods 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)

## Research

- Scholar total h=32, Cit. 2694
- Scopus. total h=24, since 2013 h=11;
- Scopus total number of publication 126, since 2013 is 43
- Scopus. number of citations total 1593, from 2013 is 389;
- Scopus. average number of citations 12.64, since 2013 is 9,04;
- Scopus-. IF total and average 166,022 e 2,554, since 2013 99,617 e 2,846
- 25 in Communications in Mathematical Physics, 19 in Physical Review B, 12 in Journal of Statistical Physics 7 in Journal in Mathematical Physics 5 in Annales H. Poincaré' 4 in Reviews in Mathematical Physics 3 in Physical Review Letters, 3 in Europhysics Letters, 3 in Journal of Physics A, 2 in Phys Rev D, 2 in J High Energy Physics 2 in Nonlinearity, 2 in Communications in Pure and Applied Analysis,

2 in Nuclear Physics B, 2 in Physica D, 1 in Physics Reports, 1 in Journal de Mathématiques Pures et Appliquées, 1 in Annali Scuola Normale, 1 in Phys Rev E, etc; 3 books.

## University Teaching

- 1996-2000 Meccanica Razionale (esercitazioni, Tor Vergata, Ingegneria)
- 2000-2012 Meccanica Razionale; Metodi e Modelli per la matematica applicata; Metodi Matematici. (titolare, Tor Vergata, Ingegneria)
- 2012-2022 Fisica Matematica 3 (Titolare, dip. Matematica, Milano, triennale)
- 2012-2022 Meccanica Statistica (magistrale, titolare, dip. Matematica, Milano)
- 2015-2022 Teoria Statistica dei Campi 1 e 2 (magistrale, titolare, dip. Fisica, Milano)

## Advanced teaching

- 2005 Lecture Course on the Renormalization Group, Heriot-Watt University, Edimburgo
- 2009 Lecture course on Renormalization Group, University of Brasilia, Center of Condensed matter
- 2011, Summer school on current topics in Mathematical Physics, ESI, Vienna, Universality and Critical behavior in Luttinger and Dirac liquids.
- 2019, Ravello GNFM school in Mathematical Physics. 9-14 September 2019. Renormalization Group and the universality problem
- 2023. SISSA, Trieste. Minicourse: Anomalies, Universality and Renormalization Group
- 2020, 2021 UNIMI; Dottorato, Mathematics for QFT and Statistical Mechanics.

## Visits (last 15 years)

- 15/4- 15/5 2002 School of Mathematics, Institute for Advanced Study, Princeton, USA.
- 25/3-6/4 2003 GeorgiaTech, Atlanta, US.
- 15/4-15/5 2003 School of Mathematics, Institute for Advanced Study, Princeton, USA.
- 1/9- 12/9 2003. Erwin Schroedinger Institute, Vienna
- 10/5/2005-30/5/2005 Heriot-Watt University, Edimburgo (2005)
- 27/11/2005- 23/12/2005, School of Mathematics, Institute for Advanced Study, Princeton, US
- 17/10/2007-3/12/2007 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 Institute for Advanced study, Princeton
- 7/4- 15/4 2013, GeorgiaTech, Atlanta, USA
- 15/4- 15/5 2013 Rutgers University, New Brunswick, USA
- 1/10- 30/10 2014 Short term visiting professor, International Institute of Physics, Natal (Brasile)
- 16/12- 22/12/2014 Institute for Advanced studies, Princeton
- 11/10- 24/10/2016 Institute for Advanced studies, Princeton
- 30/4- 14/5/2017 Institute for Advanced studies, Princeton
- 1/12- 7 2017 Gatech Atlanta
- 17-14/1/2016. Tel Aviv University (Ron Pelled)
- 1/1-20/4/2022 Member, Institute for Advanced studies, Princeton

## Organized conferences (selection)

- Program "Applications of the Renormalization group" at the 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 Chile (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)
- Localization and reducibility in Hamiltonian PDEs and Quantum Mechanics Unimi, Milano, December 16-18, 2015
- EMS IAMP Summer School in Mathematical Physics Universality, Scaling Limits and Effective Theories July 11 15, 2016, Roma (Italy) (with Correggi, Giuliani Pizzo)
- Quantum Transport and Universality From Topological Materials to Quantum Hydrodynamics. Workshop, accademia dei Lincei 23-25 settembre (2019)
- QMATH 15, Sep 12-16 2022, UC DAVIS; organization of the session new Topics in Math Phys (with J Moore)
- Mathematical Quantum Matter 9-11 2023, Unimi, Milano

### Invited speaker (selection)

- 6-9/2000 Invited speaker a *International Conference of Mathematical Physics ICMP2000*,
- 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. "AIMS international conference", Poitiers, Francia. Renormalization Group approach to PDE
- 18/9-22/9, 2006 "III international conference on Exact Renormalization Group", Lefkada (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-periodic chain c Laudatio for G. Gallavotti.
- 13/7-17/7 2015 "Quantum many-body systems, random matrices, and disorder" Schrodinger Institut, Vienna. Localization for interacting quasi periodic fermions.
- 5/6-18/6 2016 "Quantum non-equilibrium phenomena" International Institute of Physics, Natal, Brasil. 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 Atlan ta QMath13: Mathematical Results in Quantum Physics. Localization 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 Current Problems in theoretical Physics, Vietri (Italy). Anomalies, Constructive QFT and Universality in solid state physics
- 23-28 July 2018. ICMP 2018. Montreal (Ca). Laudatio for Giovanni Gallavotti-Poincare' prize.
- 3-7 September 2018, Newton Institute. 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
- April 8 - 12 2019, Many-body theory, random operators and matrices matrices. Mittag Institute, Stoccolma. Persistence of gaps in the interacting anisotropic Hofstadter model
- 12.14 May 2019; 121st Statistical Mechanics Conference, Rutgers, New Brunswik Universality and Renormalization Group for Hall insulators
- 20.23 May 2019, Quasiperiodicity and Fractality in Quantum Statistical Physics. Rutgers University, New Brunswik Persistence of gaps in the anisotropic Hofstadter model



- 3-7 June 2019, Ergodicity breaking in quantum physics. Galileo Galilei institut Persistence of gaps in the anisotropic Hofstadter model
- 23-25 September 2019 Quantum Transport and Universality From Topological Materials to Quantum Hydrodynamics Accademia dei Lincei Roma Anomaly non renormalization in interacting weyl semimetals
- Emergent CFTs in statistical mechanics. 29 January 2020, Amphi Curie, Paris. Universality in Ising, Vertex, Dimers and beyond.
- 5-9 July 2021 ECT Trento Relativistic fermions in flatland
- SISSA Trieste, September 27 October 1, 2021 Exact Quantisation
- 26-27 1 2023, Quantum Transport: Disorder, Interactions and Integrability, Lincei, Roma Quantum Transport and small divisors
- 6-8, 2, 2023 Universality in Condensed Matter and Statistical Mechanics, Roma3. Anomaly cancellation condition
- 2024 Plenary at American Mathematical Society-UMI conference Palermo 2024.

### Seminars (selection, since 2002)

- 24/4 2002 Statistical 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 field 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. Stockholm. 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 finite 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 Properties 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 Mathematical 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
- 21-1-2019 Horowitz seminar on Probability, Ergodic Theory and Dynamical Systems at Tel Aviv University. Rigorous Renormalization Group approach to universality in spin and dimer models
- 2-12-2019 Geneva university. Math Phys seminar Rigorous Renormalization Group approach to universality in spin and dimer models Renormalization Group approach to universality in non-integrable systems
- 10/3/2022 An Introduction to Grassmann integrals with applications to statistical mechanics- Institute for Advanced Study, Princeton
- 29/3/2022 Mathematical Physics Seminar, Princeton university, "Anomaly non-renormalization on a lattice"
- 10/5/2022 IAMP seminar. Anomalies and non-perturbative QFT
- 6/4/2023 Math Phys seminar, Gatech Atlanta. Vanishing of the anomaly in lattice chiral gauge theory

### Third Mission

- ScienzaNuova, Merano, July 2017-2023, Dialogues at the Border Between Science and Philosophy. Invited Conferences open to public on fundamental topic of science like time and symmetries. Some titles: "La freccia del tempo"; "Modello Standard e Magemagics"; "Fisica ed Estetica".
- Dialogo sui fondamenti della probabilita' (with A. Vulpiani and E. Regazzini), Bocconi, 3/16/23
- 5/ 11 /2023 Seminar at the Architecture department, Rome3. Fisica Matematica ed estetica.

### 15 selected publications

- 1) V. Mastropietro. M. Porta. Multi-channel Luttinger Liquids at the Edge of Quantum Hall Systems. COMMUNICATIONS IN MATHEMATICAL PHYSICS 395, 10971173 (2022). Cit. 5 , IF 2.5, (DOI) <https://doi.org/10.1007/s00220-022-04443-5>
- 2) A. Giuliani, V. Mastropietro, M. Porta, Marcello. Anomaly Non-renormalization in Interacting Weyl Semimetals. COMMUNICATIONS IN MATHEMATICAL PHYSICS, vol. 384, p. 997-1060 (2021). Cit. 18, IF 2.4, (DOI) <https://doi.org/10.1007/s00220-021-04004-2>
- 3) V.Mastropietro. Anomaly cancellation condition in an effective nonperturbative electroweak theory, PHYSICAL REVIEW D 103 (1), 013009 (2021). Cit. 6, IF 5.407, DOI: 10.1103/PhysRevD.103.013009
- 4) A. Giuliani, V. Mastropietro, S. Rychkov (2021). Gentle introduction to rigorous Renormalization Group : a worked fermionic example. JOURNAL OF HIGH ENERGY PHYSICS, 1-109 (2021). Cit. 24, IF 6.379, DOI <https://doi.org/10.1007/JHEP0128202129026>
- 5) A. Giuliani, V.Mastropietro, Vieri, F. Toninelli. Non-integrable Dimers: Universal Fluctuations of Tilted Height Profiles. COMMUNICATIONS IN MATHEMATICAL PHYSICS, vol. 377, p. 1883-1959 (2020). Cit. 30, IF 2.386, (DOI) <https://doi.org/10.1007/s00220-020-03760-x> Commun. Math. Phys. 3
- 6) V. Mastropietro Coupled identical localized fermionic chains with quasirandom disorder. PHYSICAL REVIEW B 95 (7), 075155 (2017). Cit 12, IF 3,813, DOI <https://doi.org/10.1103/PhysRevB.95.075155>
- 7) G. Antinucci, V. Mastropietro, Vieri, M. Porta. Universal Edge Transport in Interacting Hall Systems. COMMUNICATIONS IN MATHEMATICAL PHYSICS, vol. 362, p. 295-359, (2018), Cit. 17, IF 2,239, Doi <https://doi.org/10.1007/s00220-018-3192-y>
- 8) A. Giuliani, V. Mastropietro, M. Porta. Universality of the Hall Conductivity in Interacting Electron



Systems. COMMUNICATIONS IN MATHEMATICAL PHYSICS, vol. 349, p. 1107-1161, (2017). Cit. 56, IFF 2.338. Doi 10.1007/s00220-016-2714-8

- 9) 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, (2017). Cit. 42, IF 2.338, doi 10.1007/s00220-016-2631-x
- 10) A. Giuliani, V. Mastropietro, F. Toninelli. Height fluctuations in interacting dimers ANNALES DE L'INSTITUT POINCARÉ- Probabilités et Statistiques, Vol. 53, No. 1, 98-168 (2017). Cit. 54, IF 1.113 DOI: 10.1214/15-AIHP710
- 11) V. Mastropietro. Localization in Interacting Fermionic Chains with Quasi-Random Disorder. COMMUNICATIONS IN MATHEMATICAL PHYSICS, vol. 321, p. 283-309, (2017) Cit. 24, IF 2.338, (DOI) 10.1007/s00220-016-2773-x
- 12) V. Mastropietro Localization in the Ground State of an Interacting Quasi-Periodic Fermionic Chain. Communications in Mathematical Physics volume 342, pages217250 (2016). Cit. 17, IF 2.500, (DOI) 10.1007/s00220-015-2498-2
- 13) V. Mastropietro. Localization of interacting fermions in the Aubry-Andre' model. PHYSICAL REVIEW LETTERS, vol. 115, p. 1-5, (2015). Cit. 61, IF 7.645, DOI <https://doi.org/10.1103/PhysRevLett.115.18040>
- 14) G. Benfatto, V. Mastropietro, P. Falco (2014) Universality of One-Dimensional Fermi Systems, II. The Luttinger Liquid Structure. COMMUNICATIONS IN MATHEMATICAL PHYSICS volume 330, pages217282 (2014) Cit. 16, IF 2.086, (DOI) 10.1007/s00220-014-2009-x
- 15) 15) G. Benfatto, P. Falco V. Mastropietro Universality of One-Dimensional Fermi Systems, I. Response Functions and Critical Exponents COMMUNICATIONS IN MATHEMATICAL PHYSICS volume 330, pages153215 (2014) Cit. 19, IF 2.086 (DOI) 10.1007/s00220-014-2008-

## Books

- V. Mastropietro: Non perturbative renormalization World Scientific (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 Scientific (2013)

## Articles (extended list)

- V Mastropietro Vanishing of the anomaly in lattice chiral gauge theory Annales Henri Poincaré, 1-35, 2023
- V. Mastropietro Anomaly cancellation in the lattice effective electroweak theory, Journal of Mathematical Physics 64 (3), 032303
- V Mastropietro, M Porta Multi-channel Luttinger Liquids at the Edge of Quantum Hall Systems V Mastropietro, M Porta Communications in Mathematical Physics 395 (3), 1097-1173 2 2022
- V Mastropietro, Nonperturbative renormalization of the lattice Sommerfeld vector model Physical Review D 105 (11), 114502 2022
- V Mastropietro, Vanishing of Drude Weight in Interacting Fermions on with Quasi-Periodic Disorder Journal of Statistical Physics 186 (3), 36 2022
- V Mastropietro Anomaly cancellation condition in an effective nonperturbative electroweak theory Physical Review D 103 (1), 013009 4 2021
- A Giuliani, V Mastropietro, S Rychkov Gentle introduction to rigorous Renormalization Group: a worked fermionic example A Giuliani, V Mastropietro, S Rychkov Journal of High Energy Physics 2021 (1), 1-112
- A Giuliani, V Mastropietro, FL Toninelli Non-integrable dimers: Universal fluctuations of tilted height profiles Communications in Mathematical Physics 377 (3), 1883-1959



- V. Mastropietro Stability of Weyl semimetals with quasiperiodic disorder Phys. Rev. B 102, 045101 (2020)
- V. Mastropietro Emergent Adler-Bardeen theorem Journal of High Energy Physics 2020 (3), 1-18
- A Giuliani, V Mastropietro, M Porta Quantization of the interacting Hall conductivity in the critical regime Journal of Statistical Physics (2020) 180:332365
- A Giuliani, V Mastropietro, M Porta Anomaly non-renormalization in interacting Weyl semimetals COMMUNICATIONS IN MATHEMATICAL PHYSICS, vol. 384, p. 997-1060 2022
- V Mastropietro Persistence of gaps in the interacting anisotropic Hofstadter model Physical Review B 99 (15), 155154 2 2019
- F Bonetto, V Mastropietro Non-integrable fermionic chains near criticality EPL (Europhysics Letters) 125 (2), 27002 (2019)
- G Antinucci, V Mastropietro, M Porta Universal edge transport in interacting Hall systems Communications in Mathematical Physics 362 (1), 295-359 7 2018
- V Mastropietro, M Porta Canonical Drude weight for non-integrable quantum spin chains Journal of Statistical Physics 172 (2), 379-397, 2018
- V Mastropietro, M Porta Spin Hall insulators beyond the helical Luttinger model Physical Review B 96 (24), 245135 6 2017
- V. Mastropietro Interacting spinning fermions with quasirandom disorder Annalen der Physik 529 (7), 1600270, 2017
- 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 POINCARÉ-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 POINCARÉ', vol. 17, p. 459-495
- A. Giuliani, V. Mastropietro, 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
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