

CURRICULUM VITÆ

Dr. Marco Panero

PERSONAL AND CONTACT INFORMATION

Date and place of birth: 19 July 1976, Bra (Italy)
Nationality: Italian
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PRESENT POSITION

Oct. 2010 - present: Postdoctoral Researcher,
University of Helsinki (Finland)

RESEARCH EXPERIENCE AND SCIENTIFIC EDUCATION

Oct. 2008 - Sept. 2010: Postdoctoral Researcher (INFN fellow),
ETH Zürich (Switzerland)
Jan. 2007 - Sept. 2008: Postdoctoral Researcher (Humboldt fellow),
University of Regensburg (Germany)
Nov. 2003 - Nov. 2006: Postdoctoral Researcher,
Dublin Institute for Advanced Studies (Ireland)
Oct. 2003: P.D. in Physics,
University of Torino (Italy)
Jul. 2000: Master's degree in Physics (first class honours),
University of Torino

SCIENTIFIC RESEARCH IMPACT

39 scientific publications (including 20 articles in peer-review journals), with 549 citations. Hirsch number: $h = 13$. The work on the thermodynamics of gauge theories with a large number of colors (topcite 100) has been featured in:

- M. Schirber, *Quark colors unbound*, Phys. Rev. Focus **24** 22 (2009)
- M. Catanzaro, *Quark di tanti i colori*, Le Scienze **498** 29 (2010)

INVITED LONG-TERM VISITS

- Kavli Institute for Theoretical Physics (Santa Barbara, USA), January-February 2012
- Laboratori Nazionali INFN di Frascati (Frascati, Italy), May-June 2010

INVITED TALKS

- Kavli Institute for Theoretical Physics (Santa Barbara, USA), 19 January 2012: *The planar limit of strongly coupled gauge theories in 3+1 and in 2+1 dimensions*
- University of Jyväskylä (Jyväskylä, Finland), 30 September 2011: *Thermal properties of strongly coupled gauge theories and the large- N limit*
- “SM & FT 2011”, The XV Workshop on Statistical Mechanics and nonperturbative Field Theory, University of Bari and INFN (Bari, Italy), 21 September 2011: *QCD thermodynamics and the large- N limit – A review*
- University of Bielefeld (Bielefeld, Germany), 21 April 2011: *The equation of state and renormalized Polyakov loop in $SU(N)$ Yang-Mills theories from the lattice*
- CERN (Geneva, Switzerland), 4 March 2011: *Yang-Mills thermodynamics in the large- N limit*
- “Physics of strongly interacting field theories”, fall course of the International Graduate School Bielefeld - Paris - Helsinki, GRK 881 and PACO “Quantum Fields and Strongly Interacting Matter”, University of Helsinki (Helsinki, Finland), 25-29 October 2010: lectures on *Introduction to lattice QCD*
- École Normale Supérieure and Université Pierre et Marie Curie – Paris VI (Paris, France), 21 September 2010: *Non-perturbative methods to study the hot QCD plasma – Holographic predictions, the large- N limit and lattice simulations*

- Extreme QCD 2010, Physikzentrum Bad Honnef (Bad Honnef, Germany), 21 June 2010: *Large- N thermodynamics*
- Laboratori Nazionali di Frascati (Frascati, Italy), 10 June 2010: *Strong dynamics in the large- N limit from string theory and from the lattice*
- Université de Mons-Hainaut (Mons, Belgium), 12 May 2010: *A nerd's trip – From String Theory to heavy-ion collision experiments, through computer simulations*
- University of Crete (Heraklion, Greece), 24 March 2010: $3 = \infty$
- Internationales Wissenschaftsforum Heidelberg (Heidelberg, Germany), 15 March 2010: *Strings and numeric strings*
- University of Bern (Bern, Switzerland), 12 March 2010: *Computer-assisted plasma holography*
- University of Helsinki (Helsinki, Finland), 16 February 2010: *Hot, colorful and strongly interacting*
- University of Genoa (Genoa, Italy), 12 January 2010: *Large extra dimensions – From the general scenario to a non-perturbative investigation on the lattice*
- Dublin Institute for Advanced Studies (Dublin, Ireland), 10 December 2009: *Holographic predictions and lattice results for a hot, colorful plasma*
- Niels Bohr Institute (Copenhagen, Denmark), 1 December 2009: *Thermodynamic properties of the QCD plasma and the large- N limit*
- University of Barcelona (Barcelona, Spain), 26 November 2009: *Thermodynamic properties of the QCD plasma – A comparison of holographic predictions and lattice simulations in the large- N limit*
- Goethe-Universität (Frankfurt am Main, Germany), 29 October 2009: *The equation of state of the strongly interacting gluon plasma in the large- N limit*
- ECT* (Trento, Italy), 26 May 2009: *Thermodynamics of the large- N gluon plasma from the lattice*
- Bergische Universität Wuppertal (Wuppertal, Germany), 4 April 2009: *The large- N limit of a strongly interacting gluon plasma*
- University of Torino (Torino, Italy), 10 December 2008: *Approach to the quasi-conformal regime in hot lattice gauge theories*
- Max-Planck-Institut für Physik (Munich, Germany), 22 September 2008: *Hot colorful glue – A lattice study of the thermodynamics of $SU(N)$ gauge theories*

- University of Edinburgh (Edinburgh, UK), 19 June 2008: *Thermodynamics of $SU(N)$ lattice gauge theories*
- University of Torino (Torino, Italy), 26 March 2008: *An introduction to Chroma*
- Dublin Institute for Advanced Studies (Dublin, Ireland), 12 June 2007: *Numerical results for the non-commutative scalar model*
- Bayrischzell Workshop 2007 (Bayrischzell, Germany), 13 May 2007: *Computer simulations of non-commutative field theory*
- Swansea University (Swansea, UK), 13 October 2006: *Interfaces in lattice gauge theory*
- University of Liverpool (Liverpool, UK), 18 January 2006: *Comparing numerical results and effective string predictions in the confined phase of Abelian lattice gauge theories*
- University of Regensburg (Regensburg, Germany), 12 January 2006: *A comparison of effective string predictions and numerical results in the confined phase of Abelian lattice gauge theories*
- Humboldt-Universität zu Berlin (Berlin, Germany), 8 November 2005: *Effective string predictions and numerical results in the confining regime of Abelian LGT*
- Université François-Rabelais Tours (Tours, France), 6 October 2005: *Confinement and string effects in Abelian LGT*
- Institute of Mathematical Sciences (Chennai, India), 18 July 2005: *Numerical simulations on the fuzzy sphere*
- University of Torino (Torino, Italy), 11 December 2004: *Duality and the $U(1)$ LGT*
- Universidad Nacional Autónoma de México (Mexico City, Mexico), 17 June 2004: *Effective string scenario for confinement and high precision lattice results*
- Trinity College Dublin (Dublin, Ireland), 7 April 2004: *Cluster confinement mechanism in lattice gauge theories*
- Dublin Institute for Advanced Studies (Dublin, Ireland), 25 September 2003: *Confinement: theoretical predictions from the effective string, and high precision Monte Carlo results*
- University of Barcelona (Barcelona, Spain), 7 November 2002: *String effects in Polyakov loop correlators*

TEACHING EXPERIENCE

- Lecturer for the Mathematical Methods of Physics III course (group theory, topology and introduction to differential geometry), University of Helsinki, 2011-12
- Lectures on “Introduction to Lattice QCD” at the “Physics of strongly interacting field theories” fall course of the International Graduate School Bielefeld - Paris - Helsinki, GRK 881 and PACO “Quantum Fields and Strongly Interacting Matter”, University of Helsinki, 2010
- Tutor for the Supersymmetry proseminar course for M.Sc. students, ETH Zürich, 2009
- Tutor for the Advanced Quantum Field Theory proseminar course for M.Sc. students, ETH Zürich, 2008
- Teaching assistant for the Electromagnetism course for Bachelor students, University of Torino, 2002-03
- Teaching assistant for the Classical Mechanics course for Bachelor students, University of Torino, 2001-02

THESES SUPERVISED

- Stefano Piemonte (University of Torino, Italy), Master’s degree in Physics, academic year 2010-2011: *Termodinamica delle teorie di gauge su reticolo* (“Thermodynamics of lattice gauge theories”), 110/110 with first class honours; thesis supervised with M. Caselle
- Luca Castagnini (University of Torino, Italy), Master’s degree in Physics of Fundamental Interactions, academic year 2008-2009: *Thermodynamics of $SU(N)$ gauge theories in 2+1 dimensions*, 110/110 with first class honours; thesis supervised with M. Caselle

MISCELLANEA

- Programming languages: C, C++, Fortran; MPI
- OS: Linux, Mac OS X, Windows
- Editorial board membership: Frontiers in Science

- Peer-review refereeing: Advances in Theoretical and Mathematical Physics, Classical and Quantum Gravity, European Journal of Physics, Foundations of Physics, International Journal of Modern Physics E, Journal of Physics A: Mathematical and Theoretical, Journal of Physics: Condensed Matter, Journal of Physics G: Nuclear and Particle Physics, New Journal of Physics, Nuclear Physics B, Physica Scripta, Physical Review D, Physics Letters A, Symmetry, Integrability and Geometry: Methods and Applications
- Languages: Italian (native); English (fluent); German, French and Finnish (elementary)