



ALMA MATER STUDIORUM · UNIVERSITA' DI BOLOGNA

DIPARTIMENTO DI FISICA E ASTRONOMIA

Francesco Ravanini

CURRICULUM VITÆ

Personal data

- Born in Novara (Italy), February 1, 1958 – Italian citizenship
- Status: married with 3 children

Education

- Oct 1972 – Jun 1977: **Scientific High School** “S. Lorenzo”, Novara
Diploma Jul 26, 1977: maximum score (60/60)
- Oct 1977 – Nov 1981: **B. Sc. and M.Sc.** in Physics, Torino University
Thesis: *The Inverse Scattering Method for the solution of nonlinear equations in Field Theory* – advisor: Prof. S. Sciuto
discussed Nov 19, 1981: magna cum laude
- Dec 1981 – Mar 1984: **Master in Nuclear Physics**, Torino University
Thesis: *The problem of Universality in asymptotically free lattice Field Theories* – advisors: Prof. F. Gliozzi and S. Sciuto
discussed Jul 9, 1984: magna cum laude
- Nov 1983 – Oct 1986: **Ph.D. in Physics**, Torino University
Thesis: *Phase structures in lattice Field Theories* – supervisor: F. Gliozzi
discussed Jun 10, 1987: judged *excellent* by the national committee

Employments

- Nov 1, 1986 – Oct 31, 1988: **Postdoctoral position** at NORDITA c/o Niels Bohr Institute, Copenhagen, Denmark
- Nov 1, 1988 – Oct 31, 2005: **I.N.F.N. Researcher** at the Bologna Section of I.N.F.N. (Istituto Nazionale di Fisica Nucleare) c/o Dept. of Physics and Astronomy, Bologna University, Italy
- Nov 1, 2005 – present: **Associate Professor** in Theoretical Physics at the Dept. of Physics and Astronomy of Bologna University

Long Term visits to International Institutions

- Jan 1991 – Feb 1992: Visiting Fellow at Service de Physique Théorique, **C.E.A. Saclay**, Paris (France)

- Feb 1995 – Aug 1995: Visiting fellow at ENSLAPP (nowadays **LAPTH**), **Annecy-le-Vieux** (France)
- May 2009 – Sep 2009: Senior visiting fellow at the Theory Group of **DESY, Hamburg** (Germany)
- set 2018 - nov 2018: Visiting fellow a Sogang University & Ewha Womans University, **Seoul**, South Korea
- nov 2018 - dic 2018: Visiting fellow at **Shizuoka** University, Japan
- gen 2019 - feb 2019: Visiting fellow at the University of **Melbourne**, Australia

Main Research interests

- Statistical Field Theory, Lattice Field Theories
- 2D Conformal Field Theories
- Integrable Quantum Field Theory
 - Factorized Scattering Theory and Thermodynamic Bethe Ansatz
 - NLIE and Finite size effects in Integrable Theories
- Entanglement Entropy in Conformal and Integrable Field Theories
- Integrability and Conformal Field Theory in non-equilibrium phenomena
- Integrability in effective quantum field theories

Teaching Activity

- University of Bologna Ph.D. school in Physics: ***Lie Algebras for Physicists*** (ac.years 1990-91 to 1997-98)
- University of Bologna Ph.D. school in Physics: ***Statistical and Conformal Field Theory*** (ac. years 2005-06 to 2013-14)
- University of Bologna, M.Sc. course in Astrophysics and Cosmology: ***Relativity (I and II)*** (ac. years 2005-06 to 2015-16)
- University of Bologna, M.Sc. course in Astrophysics and Cosmology: ***Field Theory II*** (ac. year 2005-06)
- University of Bologna, B. Sc. course in Astronomy: ***Fundamentals of Theoretical Physics (Quantum Mechanics)*** (ac. years 2011-12 to 2023-24)
- University of Bologna, M.Sc. course in Physics: ***Advanced Methods in Physics (Lie Groups and Algebras)*** (ac. year 2013-14)
- University of Bologna, M.Sc. course in Physics: ***Statistical Mechanics 2 (Statistical Field Theory)*** (ac. years 2015-16 to present)
- University of Bologna, B.Sc. course in Physics: ***Complements of Mathematical Methods of***

Physics (ac. year 2016-17)

- University of Bologna, B.Sc. course in Physics: ***Quantum Mechanics*** (ac. year 2024-25)

Responsibility of Erasmus and Erasmus+ exchanges

- Freie Universität Berlin (Germany) 2006 - 2025
- Université Catholique de Louvain la Neuve (Belgium) 2008 - 2025
- Universidade de Santiago de Compostela (Spain) 2017 - 2025

Conference Organization

- **Bologna Workshops in Conformal Field Theory and Integrable Models** (main organizer): 1st (1993) – 2nd (1995) – 3rd (1997) – 4th (1999) – 5th (2001) – 6th (2004) – 7th (2006) – 8th (2011) – 9th (2014) – 10th (2023)
- **Integrable models and applications: from strings to condensed matter** (1st annual meeting of the EU network EUCLID) Arcetri, Florence, Sept 15-20, 2003
- **5th International Workshop on Pseudo-Hermitian Hamiltonians in Quantum Physics**, Bologna, 3-5 Jul 2006
- Member of the Scientific Advisory Committee del **5° Focus Programme "Finite-size Technology in Low Dimensional Quantum Systems"**, Benasque (Spain), 27 Jun - 17 Jul 2010

Responsibility of Research funds

- Local Responsible of *Iniziativa Specifica INFN* (= national networked grant of INFN): TO12 (1988-2007), PI14 (2008), FI11(2009-2013)
- Principal Investigator of two International Grants of **NATO**:
 - 1995-1998: Collaborative Research Grant CRG950751
Two-dimensional Integrable Quantum Field Theories
Bologna – Durham – Santiago de Compostela
 - 2004-2007: Collaborative Linkage Grant PST.CLG.980424
Integrable Structures in Quantum Field Theory
Bologna – Durham – Santiago de Compostela – Landau Institute, Moscow
- Responsible of INFN-Bologna sub-node of the ***TMR European network (FP4) Integrability and non-perturbative effects in Quantum Field Theory*** (1996-2000)
- Coordinator of the Italian node (Bologna - Firenze -Torino) of the ***European network EUCLID (FP5) Integrable models and applications: from strings to condensed matter*** (2002-2006)
- Responsabile of the Italian part of an *Italo-Spanish INFN-MICINN exchange* Bologna – Santiago de Compostela (2008-2009)

Institutional Activities

- ***INFN Researcher elected Representative*** at the INFN Bologna Section Council and at the National Assembly of INFN Researchers' Representatives (Oct 2001 - Oct 2007)
- ***Member of the Executive Committee*** of the Department of Physics and Astronomy of Bologna University (2015-18 and 2018-21)

Other Activities

- **Referee for international journals:** Nuclear Physics B, Physical Review D, International Journal of Modern Physics A, Journal of Physics A, Physics Letters B, Journal of High Energy Physics, Journal of Statistical Mechanics, Europhysics Letters, etc...
- **Seminar organizer** at the Phys. Dept. / INFN Section of Bologna (1993-2000)

Languages spoken

- Italian (mother language) – English (fluent) – French (fluent)