

CLAUDIA RATTI

CURRICULUM VITAE

PERSONAL DATA AND CONTACTS

Place of Birth: Asti, Italy
Date of Birth: 6th June, 1976
Citizenship: Italian
Marital status: Married

EMAIL: RATTI@TO.INFN.IT

Address:

Dipartimento di Fisica
Universita` degli Studi di Torino
via Giuria 1, 10125 Torino, Italy
Tel: +39-011-6707218 FAX: +39-011-6707214



CURRENT POSITION

Dec. 2010-Now: Junior Professor and coordinator of FIRB, Research Grant Funded by the Italian Ministry of Research, Physics Department, Torino University
- January 2014: Habilitation to tenured Associate Professor with grade 3.8/4 (highest achieved grade level, only 14/304 habilitations with this grade)

PREVIOUS POSITIONS

Sep. 2009-Nov. 2010 Post-Doctoral Researcher, Department of Physics, Bergische Universität Wuppertal, Germany
Sep. 2007- Aug. 2009 Post-Doctoral Researcher, Dept. of Physics & Astronomy, State University of New York, Stony Brook, USA
Aug. 2005-2007 Post-Doctoral Researcher - ECT* (European Center for Theoretical Studies in Nuclear Physics and Related Areas) Villazzano (Trento), Italy
Aug. 2003-Jul. 2005 Post-Doctoral Fellowship - Physics Department of the Technical University of Munich, Germany. Granted by INFN
Feb.-Jul. 2003 Short-term Research Associate at Ferrara University (Italy)

EDUCATION

Jan. 2003 Ph.D. Degree in Physics – Torino University (Italy)
Title: “*Stability of strange matter: a comparison between different models*” Supervisor: Prof. W. M. Alberico, University of Torino
Oct. 1999 Degree in Physics (*Laurea in Fisica*) at Torino University
Mark: 110/110 *cum laude e menzione onorevole (full honors and honorable mention)*
Thesis Title: “*Phase transitions in hadronic models*”
Supervisor: Prof. W. M. Alberico, University of Torino.

AWARDS AND PRIZES

- 2012 Prize “Dott. Giuseppe Borgia” 2012 (10,000 €) for best Italian Physicist below 35 years old, granted by the Italian Academy of Science (Accademia Nazionale dei Lincei), awarded by the President of the Republic, evaluation based on CV and publication record
- 2011 Zonta International Prize (5,000 €) for best woman in science below 35 in Northern Italy and Monaco, evaluation based on CV and publication record
- 1999 Prize for the best Physics Thesis of the University of Torino in the Academic Year 1998-1999.
- 1999 Prize “*Emanuele Turinetti di Priero Simonis*” for the best Physics Student in the A. Y. 1998-1999.
- 1995 Town of Asti prize for the best High School Student in 1995.

VISITING AND INTERNATIONAL COOPERATIONS

- Since November 2012:* Adjunct Professor, University of Houston, Texas (USA)
- Regular collaborations:* Wuppertal University, Houston University, Technical University Munich
- Several visiting periods:* INT Seattle (USA), ECT* Trento, Galileo Galilei Institute (Florence), Brookhaven National Laboratory (USA), Lawrence-Berkeley Laboratory (USA)

MAIN RESEARCH ACTIVITY

- **Thermodynamics of QCD on the lattice:** Since 2009 I am a member of the Wuppertal-Budapest lattice QCD collaboration. We have published several fundamental results on Quark-Gluon Plasma (QGP) physics, such as the equation of state of QCD for 2+1 dynamical quark flavors at zero and small chemical potential, the transition temperature for deconfinement, second order fluctuations of conserved charges.

- **Phenomenology of the QGP:** I have developed several phenomenological models for QGP physics for three purposes:

- provide an interpretation of the lattice data in terms of effective degrees of freedom;
- access regions of the phase diagram which cannot be studied on the lattice;
- compute dynamical quantities in real time, such as QGP viscosity.

They include the PNJL model (I am first author of one of the pioneering works on the subject, which has more than 400 citations), the quasi-particle model, the Hadron Resonance Gas model.

- **Electric-Magnetic competition in the QGP:** this part of my research activity is based on the idea of a competition between electrically charged quasiparticles (quarks and gluons) and magnetically charged ones (magnetic monopoles) in the QGP. During my time in Stony Brook I showed that the presence of monopoles provides a possible explanation for the low viscosity observed experimentally in the QGP.

RESEARCH PERFORMANCE

-Research funding: Research Grants funded by: Italian Ministry of Education, University and Research (MIUR), INFN, Deutsche Forschungsgemeinschaft, DoE (see “FUNDING ID” below);

- Publications: **33 publications** in refereed international journals, of which 4 famous papers (250-499 citations), 2 very well-known papers (100-249 citations), 5 well-known papers (50-99 citations). **1 book contribution**, 21 conference proceedings. **Total citations:** ~2400, **h-index:**18, **average citations** per published paper: 62.4 (source: Web inSpire). See details below.

- Talks: 43 Talks at international conferences (of which 15 invited), 38 Invited seminars at International Universities and Institutes (of which 6 colloquia), 1 cycle of lectures at an International QGP School (see details below)

- Career supervision: Currently supervising one Ph.D. student and one postdoc

- Research Awards: Prize “Dott. Giuseppe Borgia” 2012 (10,000€) for best Italian Physicist below 35 years old, evaluation based on CV and publication record; 2011 Zonta International Prize (5,000 €) for best woman in Physics below 35 in Northern Italy and Monaco, evaluation based on CV and publication record.

FUNDING ID

Individual grants:

2010-14: Co-PI (Coordinator of the Torino Research Unit (7 members)) of the “Future in research” project (FIRB), granted by the Italian Ministry of Education, University and Research (MIUR) on heavy ion physics at the LHC (~3800 applications, ~100 projects funded). This is a joint project between the University of Torino and the University of Catania (Coordinator: Dr. Vincenzo Greco). **Project funding:** € 629000, equally shared between Catania and Torino. **Project duration:** four years.

2013: PI of European Research Council (ERC) Consolidator Grant evaluated A at step 1 and A at step 2 (fully meets the ERC's excellence criteria and is recommended for funding if sufficient funds are available).

2013: Co-PI of INCITE large scale computational project for lattice QCD: 120 million core hours awarded on the Mira Bluegene/Q supercomputer at Argonne National Laboratory (USA).

2012: Co-PI of PRACE large scale computational project for lattice QCD: 93 million core hours awarded on the Juqueen Bluegene/Q supercomputer (Juelich-Germany).

Grants as member of research groups in which I had a major role:

Since Dec. 2010: Member of research group RM31 “*Physics of heavy ion collisions at very high energy and quark-gluon plasma*”, funded by INFN (4-year funding, €140000);

- 2009-2010: Member of the Deutsche Forschungsgemeinschaft grant SFB-TR 55;
- 2007-2009: Member of the US Department of Energy Grant DE-FG03-97ER4014
- 2006: Member of PRIN grant “*QCD Phases: theory and phenomenology*”, funded by MIUR (2-year funding, €258000) ;
- 2005-2007: Co-PI (Trento coordinator) of the INFN-project RM31 “*Physics of Heavy Ion Collisions at Very High Energy and Quark-Gluon Plasma*” (National Coordinator: Prof. Luciano Maiani)

SUPERVISION ACTIVITY AND TEACHING EXPERIENCE

- Since 2014 Tutoring of the course “Electromagnetism and Optics”, Torino University
- Since 2013 Tutoring of the course “Waves, Fluids and Thermodynamics”, Torino Univ.
- Since 2011 Course on “Physics of the Quark-Gluon Plasma” for Ph.D. Students, Torino University
- March 2011 Cycle of Lectures “Thermodynamics of the Quark-Gluon Plasma” at the International School “Quark-Gluon Plasma and Heavy Ion Collisions: Past, Present and Future”, Torino, 7-12 March 2011
- Since 2011 Tutoring for the course “Mathematical Methods for Physics”, Torino Univ.
- 2007-2008: Nuclear Physics II and Quantum Mechanics at Stony Brook University
- Currently: Supervising 1 undergraduate student, 1 Ph.D. student, 1 postdoctoral researcher
- Since 2010: Co-supervisor of 6 Undergraduate students at Torino University
- 2001 Co-author of the CD-Rom “*Physics of everyday life*” Enclosed to the book “*Let us explore physics*” for High Schools, Edited by Casa Editrice SEI, Torino (Italy).

SERVICES FOR THE COMMUNITY

- PROGRAM REVIEWER FOR FUNDING AGENCIES

Reviewer for the US Department of Energy (DOE), the Czech Science foundation, the Austrian Science Fund (FWF)

- REFEREE FOR INTERNATIONAL JOURNALS

Referee for Physical Review C and D (6/year), Journal of Physics: Conference Series (5/year), Nuclear Physics A, European Physical Journal C, JHEP, Physics Letters B (2/year), Physical Review Letters (1/year).

- EDITORIAL ACTIVITY

- 2014: Editor of the proceedings of the International Conference “Fairness 2013”, IoP
- 2013: Editor of the proceedings of the International Conference “Fairness 2012”, edited by IoP, Published in J.Phys.Conf.Ser. 426 (2013)

- ORGANIZATION OF INTERNATIONAL MEETINGS

Since 2013: Organizer of the bi-annual International School "Quark-Gluon Plasma and Heavy Ion Collisions: past, present, future" (~60 participants)

Since 2012: Organizer of the annual International Conference "Fairness" on GSI Physics (~50 participants)

Since 2011: Member of the International Advisory Committee of the International Conference "Extreme QCD" (~50 participants)

LIST OF PUBLICATIONS

- 36) P. Alba, W. Alberico, M. Bluhm, V. Greco, C. Ratti, M. Ruggieri
"Polyakov loop and gluon quasiparticles: a self-consistent approach to Yang-Mills thermodynamics"
arXiv: 1402.6213, submitted to Phys. Lett. B.
- 35) M. Nahrgang, M. Bluhm, P. Alba, R. Bellwied, C. Ratti
"Impact of resonance regeneration and decay on the net-proton fluctuations in a hadron resonance gas"
arXiv: 1402.1238, submitted to Phys. Lett. B.
- 34) W. Alberico, S. Carignano, P. Czerski, A. De Pace, M. Nardi, C. Ratti
"Survival of Bc mesons in a hot plasma within a potential model "
arXiv: 1311.5733, submitted to Central Eur. J. Phys.
- 33) S. Borsanyi, Z. Fodor, S. D. Katz, S. Krieg, C. Ratti, K. K. Szabo
"Freeze-out parameters: lattice meets experiment"
Phys. Rev. Lett. 111 (2013) 062005 **18 citations**
- 32) R. Bellwied, S. Borsanyi, Z. Fodor, S. D. Katz, C. Ratti
"Is there a flavor hierarchy in the deconfinement transition of QCD?"
Phys. Rev. Lett. 111 (2013) 202302 **12 citations**
- 31) M. Bluhm, P. Alba, W. Alberico, A. Beraudo, C. Ratti
"Lattice QCD-based equations of state at vanishing net-baryon density"
submitted to Phys. Lett. B **3 citations**
- 30) M. Ruggieri, P. Alba, P. Castorina, S. Plumari, C. Ratti, V. Greco
"Polyakov Loop and Gluon Quasiparticles in Yang-Mills Thermodynamics"
Phys. Rev. D86 (2012) 054007 **14 citations**
- 29) S. Borsanyi *et al.* (Wuppertal-Budapest collaboration)
"QCD equation of state at nonzero chemical potential: continuum results with physical quark masses at order μ^2 "
JHEP 1208, (2012) 053 **34 citations**
- 28) S. Borsanyi *et al.* (Wuppertal-Budapest collaboration)
"Fluctuations of conserved charges at finite temperature from lattice QCD"
JHEP 1201, (2012) 138 **77 citations**
- 27) C. Ratti, R. Bellwied, M. Cristoforetti, M. B. Barbaro
"Are there hadronic bound states above the QCD transition temperature?"
Phys. Rev. D85 (2012) 014004 **32 citations**

- 26) S. Borsanyi *et al.* (Wuppertal-Budapest collaboration)
 “Transition Temperature and the equation of state from lattice QCD,
 Wuppertal-Budapest results”
 Journal of Physics G38 (2011) 124101 **5 citations**
- 25) S. Borsanyi *et al.* (Wuppertal-Budapest collaboration)
 “Correlations and Fluctuations from lattice QCD”
 Journal of Physics G38 (2011) 124060 **14 citations**
- 24) C. Ratti *et al.* (Wuppertal-Budapest collaboration)
 “Recent results on QCD thermodynamics: lattice QCD versus Hadron
 Resonance Gas Model”
 Nucl. Phys. A855 (2011) 253 **16 citations**
- 23) S. Borsanyi *et al.* (Wuppertal-Budapest collaboration)
 “QCD equation of state from the lattice”
 AIP Conf. Proceedings **1343** (2011) 519 **1 citation**
- 22) S. Plumari, W. M. Alberico, V. Greco, C. Ratti
 “Recent thermodynamic results from lattice QCD analyzed within a
 quasi-particle model”
 Phys. Rev. D84 (2011) 094004 **26 citations**
- 21) S. Borsanyi *et al.* (Wuppertal-Budapest collaboration)
 “The QCD equation of state with dynamical quarks”
 JHEP 1011, (2010) 077 **359 citations**
- 20) S. Borsanyi *et al.* (Wuppertal-Budapest collaboration)
 “Is there still any T_c mystery in lattice QCD? Results with physical masses
 in the continuum limit III”
 JHEP **1009**, (2010) 073 **304 citations**
- 19) M. Lublinsky, C. Ratti and E. Shuryak
 “Radiation of an electric charge in the field of a magnetic monopole”
 Phys. Rev. **D81**, (2010) 014008 **7 citations**
- 18) C. Ratti
 “The role of color-magnetic monopoles in a gluonic plasma”
 Nucl. Phys. **A830** (2009), 315C **5 citations**
- 17) C. Ratti and E. Shuryak
 “The role of Monopoles in a Gluon Plasma”
 Phys. Rev. **D80**, (2009) 034004 **35 citations**
- 16) K. Dusling, C. Ratti and I. Zahed
 “Polyakov-Nambu-Jona-Lasinio model in 0+1 dimensions”
 Phys. Rev. **D79**, (2009) 034027 **5 citations**
- 15) A. Beraudo, J.-P. Blaizot and C. Ratti
 “Real and imaginary-time $Q\bar{Q}$ correlators in a thermal medium”
 Nucl. Phys. **A806** (2008) 312 **104 citations**

- 14) S. Roessner, T. Hell, C. Ratti and W. Weise
“The chiral and deconfinement crossover transitions: PNJL model beyond mean field”
 Nucl. Phys. **A814** (2008) 118 **91 citations**
- 13) W. Weise, C. Ratti and S. Roessner
“Phases of QCD, Polyakov Loop and Quasiparticles”
 Prog. Theor. Phys. Suppl. 168 (2007) 435 **1 citation**
- 12) C. Ratti, S. Roessner and W. Weise
“Quark number susceptibilities: lattice QCD vs PNJL model”
 Phys. Lett. **B649** (2007) 57 **71 citations**
- 11) S. Roessner, C. Ratti and W. Weise
“Polyakov loop, diquarks and the two-flavour phase diagram”
 Phys. Rev. **D75** (2007) 034007 **295 citations**
- 10) C. Ratti, S. Roessner, M. A. Thaler and W. Weise
“Thermodynamics of the PNJL model”
 Eur. Phys. J. **C 49** (2007) 213 **74 citations**
- 9) C. Ratti, S. Roessner and W. Weise
“A field theoretical model for QCD thermodynamics”
 Journal of Physics G: Nucl. Part. Phys. 34 (2007) S647-S650.
- 8) H. Hansen, W. M. Alberico, A. Beraudo, A. Molinari, M. Nardi, C. Ratti
“Mesonic correlation functions at finite temperature and density in the Nambu Jona-Lasinio model with a Polyakov loop”
 Phys. Rev. **D75** (2007) 065004 **115 citations**
- 7) C. Ratti, M. A. Thaler and W. Weise
“Phase diagram and thermodynamics of the PNJL model”
“The CBM Physics Book - Compressed Baryonic Matter in Laboratory Experiments”
 Springer Series: Lecture Notes in Physics, Vol. 814, 1st Ed., 2011 **22 citations**
- 6) C. Ratti, M. A. Thaler and W. Weise
“Phases of QCD: lattice thermodynamics and a field theoretical model”
 Phys. Rev. **D73** (2006) 014019 **464 citations**
- 5) C. Ratti and W. Weise
“Thermodynamics of two-color QCD and the Nambu Jona-Lasinio model”
 Phys. Rev. **D70** (2004) 054013 **51 citations**
- 4) A. Drago, M. Gibilisco, C. Ratti
“Evaporation of the gluon condensate: a model for pure gauge SU(3)_c phase transition”
 Nucl. Phys. **A742** (2004) 165 **17 citations**
- 3) C. Ratti
“The NJL model and strange quark matter”
 Europhys. Lett., Vol. **61**, N. 3 (2003) 314 **5 citations**
- 2) W. M. Alberico, F. Giacosa, M. Nardi, C. Ratti
“Baryonic masses based on the NJL model”
 Eur. Phys. J. **A 16** (2003) 221 **5 citations**

- 1) W. M. Alberico, A. Drago, C. Ratti
“*Stability of strange quark matter: MIT bag versus Color Dielectric Model*”
Nucl. Phys. **A706** (2002) 143 **10 citations**

Total number of citations: 2287; Average citations: 63.5; H Index: 18

CONTRIBUTIONS TO CONFERENCE PROCEEDINGS

- 21) S. Borsanyi *et al.* (Wuppertal-Budapest collaboration)
“*Freeze-out parameters from continuum extrapolated lattice data*”
Talk presented at the 31st International Symposium on Lattice Field Theory
29 July - 3 August 2013, Mainz, Germany
- 20) P. Alba *et al.*
“*Flavor hierarchy in the Confinement Transition of QCD*”
Presented at the 8th Intl. Workshop CPOD 2013, PoS CPOD2013 (2013) 060
- 19) C. Ratti *et al.*
“*Lattice QCD thermodynamics in the presence of the charm quark*”
Talk presented at the International Conference “Quark Matter 2012”
Nucl. Phys. A904 (2013) 869c.
- 18) S. Krieg *et al.* (Wuppertal-Budapest collaboration)
“*Fluctuations of conserved charges at finite temperature from lattice QCD*”
Talk presented at the International Conference “Extreme QCD 2012”
J. Phys. Conf. Series 432 (2013) 012012.
- 17) S. Borsanyi *et al.* (Wuppertal-Budapest collaboration)
“*Correlations and fluctuations from lattice QCD: Wuppertal-Budapest results*”
Talk presented at the International Conference “Excited QCD 2012”
Acta Physica Polonica Supplement 5 (2012) 1123.
- 16) C. Ratti *et al.* (Wuppertal-Budapest collaboration)
“*Recent results on correlations and fluctuations from lattice QCD*”
Talk presented at the International Winter Meeting on Nuclear Physics
PoS BORMIO2012 (2012) 029.
- 15) S. Borsanyi *et al.* (Wuppertal-Budapest collaboration)
“*Transition Temperature and the equation of state from lattice QCD, Wuppertal-Budapest results*”
Talk presented at the 27th Winter Workshop on Nuclear Dynamics
J. Phys. Conf. Ser. 316 (2011) 012020.
- 14) S. Borsanyi *et al.* (Wuppertal-Budapest collaboration)
“*Correlations and fluctuations from Lattice QCD: Wuppertal-Budapest results*”
Invited Lecture Presented at the International Conference
“Three days on quarkyonic island” - Wroclaw, Poland, 19-21 May 2011
- 13) S. Borsanyi *et al.* (Wuppertal-Budapest collaboration)
“*QCD thermodynamics on the lattice and in the Hadron Resonance Gas Model*”
Talk presented at the XIII Meeting on Theoretical Nuclear Physics
Journal of Physics: Conference Series 336 (2011) 012019.

- 12) S. Borsanyi et al. (Wuppertal-Budapest collaboration)
"QCD transition temperature: full staggered result"
 Talk presented at the XXVIII International Conference "Lattice 2010"
 Proceedings of Science LATTICE 2010 (2010), 185
- 11) S. Borsanyi et al. (Wuppertal-Budapest collaboration)
" $N_f=2+1$ flavour equation of state"
 Talk presented at the XXVIII International Conference "Lattice 2010"
 Proceedings of Science LATTICE 2010 (2010), 171
- 10) C. Ratti,
"Role of monopoles in a gluonic plasma"
 Talk presented at the International Conference "Excited QCD 2010"
 Acta Physica Polonica B Proceedings Supplement vol. 3 n. 4, p.823.
- 9) C. Ratti, E. Shuryak
"The role of color-magnetic monopoles in a gluon plasma"
 Talk presented at the International Workshop "QCD Green's Functions,
 Confinement and Phenomenology"
 PoS (QCD-TNT09) 037, 2009.
- 8) A. Beraudo, J.-P. Blaizot and C. Ratti
"Real and imaginary-time quarkonium correlators in a hot plasma"
 Talk presented at the International Conference "Quark Confinement and the
 Hadron Spectrum"
 PoS CONFINEMENT8 (2008),117.
- 7) C. Ratti, S. Roessner and W. Weise
"Phases of QCD: lattice thermodynamics, quasiparticles and Polyakov loop"
 Talk presented at the XI Meeting on Problems in Theoretical Nuclear Physics,
 "Cortona 2006, theoretical nuclear physics in Italy" World Scientific, p.359.
- 6) C. Ratti, M. A. Thaler and W. Weise
"Phases of QCD: lattice thermodynamics versus PNJL model"
 Talk presented at the International Conference "PANIC 2005"
 In "Particles and Nuclei", AIP Conf. Proceedings **842** (2006), 104.
- 5) C. Ratti, M. A. Thaler and W. Weise
"Phases of QCD: lattice thermodynamics and a field theoretical model"
 Poster presented at the International Conference "Quark Matter 2005",
 Rom. Rep. Phys. **58** (2006) 13-17.
- 4) C. Ratti and W. Weise
"Thermodynamics of the two-colour NJL model"
 Talk presented at the X Meeting on Problems in Theoretical Nuclear Physics,
 Published in the Conference Proceedings, World Scientific, Singapore, 73-80.
- 3) C. Ratti
"Model dependence of the stability of strange quark matter"
 Talk presented at the IX Meeting on Problems in Theoretical Nuclear Physics,
 Published in the Conference Proceedings, World Scientific, 363-370.

- 2) W. M. Alberico, C. Ratti
“Stability of strange quark matter: model dependence”
 Talk presented at the 4th Catania Relativistic Ion Studies (CRIS 2002),
 Published in AIP Conf. Proc. 644 (2003) 348,
- 1) C. Ratti
“Stability of strange quark matter in the MIT bag Model and in the Color Dielectric Model”
 Conference Proceedings “Statistical QCD”, page P33, Elsevier.

SEMINARS PRESENTED AT VARIOUS CONFERENCES

- 43) *Freeze-out parameters: lattice meets experiment*
 Invited Talk at the International Workshop “Lattice QCD and hadron Physics”
 ECT*, Trento, Italy, 14-16 January 2014
- 42) *Is there a flavor hierarchy in the deconfinement transition of QCD?*
 Talk at the International Conference “High Energy Physics in the LHC Era”
 Valparaiso, Chile, 16-20 December 2013
- 41) *Freeze-out parameters: lattice meets experiment*
 Invited Talk at the International Conference “QCD TNT III”
 ECT*, Trento, Italy, 2-6 September 2013
- 40) *Flavor Hierarchy in the Deconfinement Transition of QCD*
 Invited Talk at the International Conference “Quarks, Gluons, and Hadronic
 matter under Extreme Conditions”
 St. Goar, Germany, 18-21 March 2013
- 39) *Fluctuations from Lattice QCD and in the Hadron Resonance Gas Model*
 Invited Talk at the Intl. Conference “Emmy Rapid Reaction Task Force”
 Darmstadt, Germany, 11-22 February 2013
- 38) *Lattice QCD Thermodynamics in the presence of the charm quark*
 Talk Presented at the International Conference “Quark Matter 2012”
 Washington (USA), 12-18 August 2012
- 37) *Correlations and Fluctuations from Lattice QCD*
 Invited Talk at the International Conference “Excited QCD 2012”
 Peniche, Portugal, 6-12 May 2012
- 36) *Correlations and Fluctuations from Lattice QCD*
 Talk Presented at the International Conference “QNP 2012”
 Paris, France, 16-20 April 2012
- 35) *Recent results on correlations and fluctuations from Lattice QCD*
 Seminar at the “50th International Winter Meeting on Nuclear Physics”
 Bormio, Italy, 23-27 January 2012

- 34) *Recent lattice QCD results on quark number susceptibilities by the Wuppertal-Budapest Lattice QCD collaboration*
Invited talk at the international conference
“Fluctuations, Correlations and RHIC Low Energy Runs”
Brookhaven National Laboratory, USA, 3-5 October 2011
- 33) *Correlations and fluctuations from Lattice QCD*
Invited talk at the international conference
“Quarkonia in deconfined matter”
Acitrezza, Italy, 28-30 September 2011
- 32) *Recent lattice QCD results on quark number susceptibilities by the Wuppertal-Budapest collaboration*
Talk at the international conference
“Toric Workshop 2011”
Crete, Greece, 5-8 September 2011
- 31) *Correlations and fluctuations from Lattice QCD*
Talk at the international conference
“Quark Matter 2011”
Annecy, France, 23-28 May 2011
- 30) *Correlations and fluctuations from Lattice QCD*
Invited lecture at the international conference
“Three days on quarkyonic island”
Wroclaw, Poland, 19-21 May 2011
- 29) *Recent results on QCD thermodynamics: Lattice QCD versus Hadron Resonance Gas model*
Talk presented at the XIII Meeting on Theoretical Nuclear Physics
Cortona, Italy, 6-8 April 2011.
- 28) *The Lattice QCD equation of state*
Invited Review talk at the international conference
“Excited Hadronic States and the Deconfinement Transition”
Jefferson Lab, USA, 23-25 February 2011
- 27) *Recent results on QCD thermodynamics: Lattice QCD versus Hadron Resonance Gas model*
Talk at the international conference “Hard Probes 2010”
Eilat, Israele, 10-15 Ottobre 2010
- 26) *Recent results on QCD thermodynamics: Lattice QCD versus Hadron Resonance Gas model*
Talk at the International Workshop “Modeling of the parton-hadron phase transition”
Villasimius, Italy, 23-24 September 2010
- 25) *Recent results on QCD thermodynamics: Lattice QCD versus Hadron Resonance Gas model*
Talk at the international conference “The first heavy ion collisions at the LHC”
CERN, 16 August – 10 September 2010
- 24) *Recent results on QCD thermodynamics: Lattice QCD versus Hadron Resonance Gas model*
Talk at the International Conference “Quantifying the properties of hot QCD matter”, INT, Seattle, USA, 24 May – 16 July 2010

- 23) *The role of color-magnetic monopoles in a gluonic plasma*
Invited talk at the International Conference “Excited QCD”
Tatra National Park, Slovakia, 31 January - 6 February 2010.
- 22) *The role of color-magnetic monopoles in a gluonic plasma*
Invited talk at the International Workshop “QCD Green's Functions,
Confinement and Phenomenology”
ECT*, Villazzano (Trento), Italy, 7-11 September 2009.
- 21) *The role of monopoles in a gluon plasma*
Talk at the International Conference “Quark Matter 2009”
Knoxville, Tennessee, March 30- April 4 2009.
- 20) *Phases of QCD, Polyakov loop and quasiparticles*
Invited seminar at the workshop “The QCD critical point”
INT Seattle, July 28-August 22 2008.
- 19) *A field theoretical model for QCD thermodynamics*
Invited seminar at the Collaboration meeting “Electroweak interactions with
nuclei and physics of the quark-gluon plasma: many-body techniques at high
energies and temperatures”
ECT*, Villazzano (Trento), Italy, 26-30 November 2007.
- 18) *A field theoretical model for QCD thermodynamics*
Talk at the International School “Quark gluon plasma and relativistic heavy
ions: past, present and future”,
Torino, Italy, 1-8 February 2007.
- 17) *A field theoretical model for QCD thermodynamics*
Talk at the International Conference “Quark Matter 2006”
Shanghai, China, 14-20 November 2006.
- 16) *Phases of QCD: lattice thermodynamics, quasiparticles and Polyakov loop*
Talk at the XI Meeting on Problems in Theoretical Nuclear Physics
Cortona, Italy, 11-14 October 2006.
- 15) *Model Field Theories for QCD thermodynamics*
Invited talk at the International Conference “Heavy Ion Reactions at
Ultrarelativistic Energies”
ECT*, Trento, Italy, 26-30 June 2006.
- 14) *Phases of QCD*
Invited talk at the International Conference “The Physics of High Baryon
Density”
ECT*, Trento, Italy, 29 May- 2 June 2006.
- 13) *Phases of QCD*
Talk at the International Conference “Hot Quarks 2006”
Villasimius, Italy, 15-20 May 2006.
- 12) *Phases of QCD*
Talk at the International Conference “QCD at finite density”
ECT*, Trento, Italy, 21-25 March 2006.
- 11) *Phases of QCD*
Group Report at the Spring meeting of the German Physical Society (DPG)
Munich, Germany, 20-24 March 2006.

- 10) *Phases of QCD*
Talk at the collaboration meeting “Physics of Heavy-Ion Collisions and Quark-Gluon Plasma”
Florence, Italy, 16-17 February 2006.
- 9) *Phases of QCD*
Invited seminar at the Collaboration meeting “Many body techniques at high energies: electro-weak scattering on nuclei versus the physics of the QGP”
ECT*, Villazzano (Trento), Italy, 7-11 November 2005.
- 8) *Phases of QCD: lattice thermodynamics and a field theoretical model*
Talk at the International Conference “PANIC 2005”
Santa Fe, New Mexico, 24-28 October 2005.
- 7) *Phases of QCD: a field theoretical model*
Invited seminar at the II Workshop of the Virtual Institute for “Dense Hadronic Matter and QCD phase transition”
Prerow, Germany, 6-8 October 2005.
- 6) *Thermodynamics of three colour QCD*
Talk at the International School “Quark gluon plasma and relativistic heavy ions: past, present and future”,
Torino, Italy, 11-17 May 2005.
- 5) *Thermodynamics of the two colour NJL model*
Talk at the X Meeting on Problems in Theoretical Nuclear Physics
Cortona, Italy, 6-9 October 2004.
- 4) *Thermodynamics of two colour QCD and the Nambu Jona-Lasinio model*
Talk at the Spring meeting of the German Physical Society (DPG)
Cologne, Germany, 8-12 March 2004.
- 3) *A model for pure gauge SU(3)_c phase transition*
Talk at the Intl. School “QGP and relativistic heavy ions: past, present, future”
Torino, Italy, 1-5 December 2003.
- 2) *Model dependence of the stability of strange quark matter*
Talk at the IX Meeting on Problems in Theoretical Nuclear Physics
Cortona, Italy, 9-12 October 2002.
- 1) *Stability of strangelets in the MIT bag and in the Color Dielectric Model*
Talk at the Giselda Meeting
Florence, Italy, 25-27 October 2001.

INVITED SEMINARS AT VARIOUS UNIVERSITIES AND INSTITUTIONS

- 38) *Quark-Gluon Plasma Physics at the LHC*
Public lecture
Torino University, 6 February 2014
- 37) *Flavor Hierarchy in the Deconfinement Transition of QCD*
Rice University, Texas (USA), 12 March 2013
- 36) *The ying and the yang of particle production in the universe*
Colloquium
Houston University, Texas (USA), 5 March 2013

- 35) *Flavor Hierarchy in the Deconfinement Transition of QCD*
Wigner Institute, Budapest (Hungary), 18 December 2012
- 34) *The ying and the yang of particle production in the universe*
Colloquium
Technical University of Munich, Germany, 30 April 2012
- 33) *Recreating the big-bang in the laboratory*
Public Lecture organized by the Associazione Amici del Festival della Scienza e dell'Associazione Amici del Museo di Storia Naturale 'G. Doria'
Genova (Italy) 20 December 2011.
- 32) *Recent results on QCD thermodynamics from the WB collaboration*
Universita' degli Studi di Ferrara, 16 November 2011
- 31) *Recent results on flavor diagonal and non-diagonal quark number susceptibilities*
Bergische Universität Wuppertal, Germany, 14 April 2011.
- 30) *QCD Matter under extreme conditions*
Colloquium
Torino University, Italy, 18 February 2011.
- 29) *Recent results on diagonal and non-diagonal quark number susceptibilities*
University of Regensburg, Germany, 22 October 2010.
- 28) *Hadron Resonance Gas Model and Lattice QCD*
Bergische Universität Wuppertal, Germany, 15 January 2010.
- 27) *Magnetic Scenario for the Quark Gluon Plasma*
Colloquium
Frankfurt University, Germany, 10 December 2009.
- 26) *Magnetic Scenario for the Quark Gluon Plasma*
Bergische Universität Wuppertal, Germany, 26 November 2009.
- 25) *Phases of QCD, field theoretical models and Quark Gluon Plasma phenomenology*
ECT*, Villazzano (Trento), Italy, 26 May 2009.
- 24) *Role of Monopoles in a Gluon Plasma*
Rutgers University, Piscataway, USA, 20 April 2009.
- 23) *Role of Monopoles in a Gluon Plasma*
Physics Department, Genova University, Italy, 17 April 2009.
- 22) *Role of Monopoles in a Gluon Plasma*
Brookhaven National Laboratory, USA, 12 December 2008
- 21) *QCD thermodynamics, quasiparticles and Polyakov loop*
Center for Theoretical Physics, MIT, Boston, USA, 27 October 2008.
- 20) *A field theoretical model for QCD thermodynamics*
University of Connecticut, Storrs, USA, 21 April 2008.

- 19) *Quarkonia propagation in a thermal medium*
Brookhaven National Laboratory, USA, 14 March 2008.
- 18) *A field theoretical model for QCD thermodynamics*
Kent State University, Ohio, USA, 11 December 2007.
- 17) *Phases of QCD: lattice thermodynamics, quasiparticles and Polyakov loop*
State University of New York, Stony Brook, USA, 25 January 2007.
- 16) *Phases of QCD: lattice thermodynamics, quasiparticles and Polyakov loop*
Brookhaven National Laboratory, USA, 19 January 2007.
- 15) *A field theoretical model for QCD thermodynamics*
Department of Physics, Ferrara University, Italy, 27 November 2006.
- 14) *Phases of QCD in the PNJL model*
Technical University of Munich, Germany, 24 April 2006.
- 13) *Phases of QCD: lattice thermodynamics and a field theoretical model*
Lawrence-Berkeley National Laboratory, California, 31 October 2005.
- 12) *Phases of QCD*
Technical University of Munich, Germany, 17 October 2005.
- 11) *Phases of QCD: lattice thermodynamics and a field theoretical model*
ECT* board meeting, Villazzano (Trento), Italy, 17 September 2005.
- 10) *Phases of QCD: lattice thermodynamics and a field theoretical model*
ECT*, Villazzano (Trento), Italy, 21 July 2005.
- 9) *Phases of QCD: lattice thermodynamics and a field theoretical model*
Laboratori Nazionali di Frascati, Italy, 9 June 2005.
- 8) *Thermodynamics of three colour QCD*
Technical University of Munich, Germany, 28 April 2005.
- 7) *Thermodynamics of two and three colour QCD*
Technical University of Munich, Germany, 19 October 2004.
- 6) *Thermodynamics of two colour QCD and the NJL model*
Department of Theoretical Physics, Torino University, Italy, 4 October 2004.
- 5) *Thermodynamics of two colour QCD and the NJL model*
Technical University of Munich, Germany, 9 February 2004.
- 4) *Thermodynamics of two colour QCD and the NJL model*
ECT*, Villazzano (Trento), Italy, 29 January 2004.
- 3) *A model for pure gauge SU(3)_c phase transition*
ECT*, Villazzano (Trento), Italy, 30 October 2003.
- 2) *Stability of strange quark matter: model dependence*
Department of Physics, Ferrara University, Italy, 17 December 2002.
- 1) *Stability of strange quark matter: model dependence*
ECT*, Villazzano (Trento), Italy, 5 December 2002.

LANGUAGES

English: Fluent (spoken and written)

German: Fluent

French: Basic

SOFTWARE KNOWLEDGE

Optimum knowledge and practice of Mathematica

Very good knowledge of PAW, data analysis tool package

Optimum knowledge of HTML, C and FORTRAN programming

REFERENCES

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