

CURRICULUM VITAE

Sergio Caprara

Date of birth: April 1st 1967

Place of birth: Taranto.

Citizenship: Italian.

Languages: Italian (mother tongue), english, french, russian, spanish.

Address: Dipartimento di Fisica - Università di Roma Sapienza, P.le Aldo Moro, 2 I-00185 Roma.

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Present position: since october 1st 2015 associate professor in Theoretical Condensed Matter Physics, at the Department of Physics of the University of Rome Sapienza.

ACADEMIC CAREER

- Nov. 1985 - Jun. 1990 Physics courses at the University of Rome Sapienza.
- June 1990 Laurea in Fisica cum Laude, University of Rome Sapienza. Supervisor Prof. Claudio Castellani. Title of the thesis: Meccanismo magnetico per la superconduttività in un sistema con accoppiamento fermione-spin localizzato (Magnetic mechanism for superconductivity in a system with fermion-localized spin coupling").
- Nov. 1990 - Oct. 1993 PhD courses in Physics at the

University of Rome Tor Vergata.

- Jun. - Aug. 1994 Grant of the Consorzio Interuniversitario di Struttura della Materia (INFM) for a Project on

High-temperature superconductivity, at the Department of Physics of Rome Sapienza.

- September 1994 PhD in Physics, title of the Thesis: Modelli magnetici per i superconduttori ad alta temperatura

critica (Magnetic model for high-T_c superconductors).

- Jun. - Dec. 1995 Grant CEE - HCM at the Laboratoire d'Etudes des Propriétés Electroniques des Solides, Grenoble.

- Jan. - Nov. 1996 Grant CEE - HCM at the Department of theoretical physics of the Kungl Tekniska Hogskolan, Stockholm.

- 1997 Grant INFM within the Progetto di Ricerca Avanzata 1996, at the Department of Physics of the University of Rome Sapienza.

- 1998 Grant INFM within the Progetto di Ricerca Avanzata 1996, at the Department of Physics of the University of Rome Sapienza.

- Jan. - Aug. 1999 Grant INFM within the Progetto di Ricerca Avanzata 1996, at the Department of Physics of the University of Rome Sapienza.

- Sep. 1999 - Feb. 2002 Research grant at the Unità di Roma¹ of the Istituto Nazionale per la Fisica della Materia.

- Mar. 2002 - Set. 2015 assistant professor in

Condensed Matter Physics, at the Department of Physics of the University of Rome Sapienza.

MAIN RESEARCH FIELDS

Strongly correlated electron systems; high-temperature superconductors; systems with charge and spin density waves;
electron-phonon interaction; disordered quantum spin systems; quantum phase transitions; renormalization group;
spintronics; molecular dynamics; non-adiabatic quantum-classical dynamics; oxide interfaces; inhomogeneous and disordered superconductors.

VARIOUS ACTIVITIES AT THE DEPARTMENT OF PHYSICS

- Since march 12th 2002 I am Scientific Secretary of the Scientific Committee of the Departmental Library.
- From september 24th 2002 to november 1st 2007 I was representative of the researcher in the Programming Committee.
- Since september 2002 I was appointed member of the Committee for the Trans-national European Evaluation Project (TEEP 2002) organized by the European Community. The final written report was evaluated by the Danish Evaluation Institute, Copenhagen.

- Since february 18th 2005 I am supervisor of the computer activities of the Departmental library.
- From april 12th 2005 to november 1st 2007, when the works were concluded, I have been appointed member of the Committee for the makeover of the Hall of the Marconi Building of the Department of Physics.
- Since february 14th 2007 I am member of the Commissione Qualità (Quality Assessment Committee) per le Lauree triennali in Fisica, Fisica ed Astrofisica and Tecnologie Fisiche e dell'Informazione.
- Since may 27th 2013 I am member of the Commissione Paritetica Docenti-Studenti (Joint Student-Professor Committee) of the Faculty of Sciences.

VARIOUS ACTIVITIES

- I was member of the organizing Committee of the conference Coherence and incoherence in strongly correlated system, Rome - Italy, 3-7 july 2007.
- I was member of the examining committee for a research position at the University of Camerino - Faculty of Pharmacy, scientific sector FIS/03 (Condensed Matter Physics).
- I was member of the organizing Committee of the conference CMD22 - Condensed Matter Division, European Physical Society, Rome - Italy, 25-29 august 2008.
- In 2012 I was appointed by the Faculty of Sciences

member of the TFA Committee for the evaluation of candidates to

the training courses for teaching mathematics and physics at High Schools.

– I was member of the organizing Committee of the conference Disorder and Correlations in Quantum Systems, Rome -

Italy, 18-20 september 2013.

– I was member of the scientific Committee of the workshop Finance, Mathematics and Philosophy, Villa Mirafiori, Rome -

Italy, 12 and 13 june 2014.

– In 2014 I was appointed by the Faculty of Sciences member of the TFA Committee for the evaluation of candidates to

the training courses for teaching mathematics and physics at High Schools.

I am a referee for the following journals:

Journal of Physics A: Mathematical and General;

Journal of Physics: Condensed Matter; Superconductor Science and

Technology; Physica Scripta; The European Physical Journal B; Physical Review; Physical Review Letters;

Nature Materials.

VISITS AT SCIENTIFIC INSTITUTIONS

Besides my permanence abroad under post-doc grants, I have visited various institutions within scientific collaboration

projects:

- Dec. 1996, 20 days at Laboratoire d'Etudes des Propriétés Electroniques des Solides, Grenoble (France).
- May 1998, one week at the department of theoretical physics of the Kungl Tekniska Hogskolan, Stockholm (Sweden).
- Jul. - Aug. 1999, 10 days at the department of theoretical physics of the Kungl Tekniska Hogskolan, Stockholm (Sweden).
- Jan. - Feb. 2000, two weeks at the Scuola Internazionale di Studi Avanzati (SISSA/ISAS) Trieste (Italy).
- Nov. 2000, one week at the department of theoretical physics of the University Ludwig Maximilian, Munich (Germany).
- Dec. 2002, one week at the department of physics of the University Freiburg (Switzerland).
- Dec. 2003 - Jan. 2004, two weeks at the department of quantum physics of the Ecole Supérieure de Physique et de Chimie Industrielles, Paris (France).
- Dec. 2004 - Jan. 2005, two weeks at the department of quantum physics of the Ecole Supérieure de Physique et de Chimie Industrielles, Paris (France).
- Sep. 2006, one week at the department of quantum physics of the Ecole Supérieure de Physique et de Chimie Industrielles, Paris (France).
- Feb.-Mar. two weeks at the department of quantum physics of the Ecole Supérieure de Physique et de

Chimie

Industrielles, Paris (France).

- Apr. - May 2008, two months at the Donostia International Physics Center, San Sebastian (Spain).

- 15 Apr. - 15 Jun. 2009, two months at the Donostia International Physics Center, San Sebastian (Spain).

- Feb. 2010, one week at the department of quantum physics of the Ecole Supérieure de Physique et de Chimie

Industrielles, Paris (France).

- Apr. - May 2010, two months at the Donostia International Physics Center, San Sebastian (Spain).

- Feb. 2011, one week at the department of quantum physics of the Ecole Supérieure de Physique et de Chimie

Industrielles, Paris (France).

- Mar. - Apr. 2011, two months at the Donostia International Physics Center, San Sebastian (Spain).

- Jun. 2013, one week at the department of quantum physics of the Ecole Supérieure de Physique et de Chimie

Industrielles, Paris (France).

- Mar. 2014, one month at the department of quantum physics of the Ecole Supérieure de Physique et de Chimie

Industrielles, Paris (France), as Invited Professor on the Chair Joliot.

- Mar. 2015, one week at the department of quantum physics of the Ecole Supérieure de Physique et de Chimie

Industrielles, Paris (France).

- Mag. 2017, one month at the department of quantum

physics of the Ecole Supérieure de Physique et de Chimie Industrielles, Paris (France), as Invited Professor on the Chair Joliot.

- Mag. 2018, one month at the department of quantum physics of the Ecole Supérieure de Physique et de Chimie

Industrielles, Paris (France), as Invited Professor on the Chair Joliot.

INVITED TALKS

-- XVII Convegno di Fisica Teorica and Struttura della Materia, Fai della Paganella (TN) - Italy, march 29th - april 1st 1998.

-- INFMeeting, Catania - Italy, 14-18 june 1999.

-- International Conference on Dynamical systems: classical, quantum, stochastic, Porto Malu, Teulada (CA)

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Italy, 23-30 september 2000

-- Third International Conference on Stripes and High-Tc Superconductivity (STRIPES2000), Rome - Italy, 25-30 september 2000.

-- Workshop on the Phase Diagram of High-Temperature Superconducting Copper Oxides, Max Planck Institut, Stuttgart - Germany, 5-7 march 2001.

-- XXI Convegno di Fisica Teorica and Struttura della Materia, Fai della Paganella (TN) - Italy, 21-24 march 2002.

-- DyProSo XXIX: Symposium on Dynamical Properties of Solids, International Centre for Theoretical Physics

(ICTP),

Trieste - Italy, 22-25 september 2003.

-- Workshop in Mathematical Physics, Department of Physics of the University of Rome Sapienza, Rome - Italy,

3-4 november 2004.

-- MMD Meeting - Matter, Materials and Devices, Genova - Italy, 22-24 june 2005.

-- SMEC 2007 - Study of Matter at Extreme Conditions - International Symposium on Inhomogeneous and Strongly Correlated Materials (ISCM), Miami Beach - USA, 15-20 april 2007.

-- Daniel Grempel Memorial Conference, CEA-Saclay - France, 14 and 15 june 2007.

-- Coherence and incoherence in strongly correlated system, Rome - Italy, 3-7 july 2007.

-- Moscow International Symposium on Magnetism, Moscow - Russian Federation, 20-25 july 2008.

-- Moscow International Symposium on Magnetism, Moscow - Russian Federation, 21-25 august 2011.

-- Ural International Winter School on the Physics of Semiconductors, Ekaterinburg/Novoural'sk - Russian Federation, 20-25 february 2012.

– EASTMAG 2013 Trends in MAGnetism, Russky Island - Vladivostok - Russian Federation, 15-21 september 2013.

– XCIX Congresso Nazionale della Società Italiana di Fisica, Trieste - Italy, 23-27 september 2013.

– XX Ural International Winter School on the Physics of Semiconductors, Ekaterinburg/Novoural'sk - Russian Federation,

17-22 february 2014.

– Multi-Condensate Superconductivity and Superfluidity in Solids and Ultracold Gases, Camerino - Italy, 24-27 june 2014.

– Advances in Studies of Superconducting Hybrids: Theory and Modeling vs Experiment, Arcachon - France, 16-19

may 2015.

– Spin-orbit coupling in surface or interface states, Spetses - Greece, 8-12 june 2015.

– FisMat 2015, Italian National Conference on Condensed Matter Physics, University of Palermo - Italy, 28 september

- 2 october 2015.

– Ugo Fano Symposium, Rome - Italy, 17-19 december 2015.

– XXI Ural International Winter School on the Physics of Semiconductors, Ekaterinburg/Alapaevsk - Russian Federation, 15-20 february 2016.

– International MultiSuper Workshop “Novel Quantum Phenomena in Ultra Thin Superconductors”, University of Camerino, Italy, 7-8 april 2016.

– SUPERSTRIPES 2016 - Quantum in Complex Matter: Superconductivity, Magnetism and Ferroelectricity, Ischia, Italy, 23-29 june 2016.

– CMD26 - International Conference of the Condensed Matter Division of the European Physical Society, Groningen, The Netherlands, 4-9 september 2016.

– SuperFluctuations 2017 - Fluctuations and Highly Non Linear Phenomena in Superfluids and Superconductors, San Benedetto del Tronto, Italy, 6-8 settembre 2017.

– Unconventional Lifshitz transitions and spin orbit

coupling in non centrosym- metric structures, RICMASS workshop – Rome, Italy, 1 december 2017.

– XXII Ural International Winter School on the Physics of Semiconductors, Ekaterinburg/Alapaevsk - Russian Federation, 19-24 february 2018.

– Coherent Superconducting Hybrids and Related Materials, Les Arcs, France, 26-29 march 2018.

– Quantum Complex Matter 2018, Rome–Frascati, Italy, 11-15 June 2018.

– SuperTop2018 International Workshop on 2D superconductivity, Rome, Italy, 22 June 2018.

TALKS AT CONFERENCES

-- Quarto Congresso Nazionale SATT 4, Parma - Italy, 11-13 february 1991.

-- 10o convegno di Fisica Teorica and Struttura della Materia, Fai della Paganella (TN) - Italy, 3-6 april 1991.

-- International Conference on "Stripes 98", Rome - Italy, 4-7 june 1998.

-- Euroconference "Polarons: condensation, pairing, magnetism", Erice (TP) - Italy, 9-17 june 1998.

-- 6th International Conference on Path-Integrals from peV to TeV - 50 Years from Feynman's Paper, Florence - Italy, 25-29 august 1998.

-- Dibattito sui meccanismi della superconduttività ad alta T_c , Dipartimento di Fisica, Università Sapienza and Unità INFN, Roma - Italy, 9 march 1999.

-- XVIII Convegno di Fisica Teorica and Struttura della Materia, Fai della Paganella (TN) - Italy, 28 - 31 march 1999.

- IV Convegno Nazionale di Fisica Statistica, Parma - Italy, 23 - 25 june 1999.
- 22nd International Conference on Low Temperature Physics, Espoo/Helsinki - Finland, 4 - 11 august 1999.
- International Conference on Statistical Mechanics and Strongly Correlated Systems - 2nd Giovanni Paladin memorial,
Department of Physics
of the University of Rome Sapienza, Rome - Italy, 27 - 29 september 1999.
- XIX Convegno di Fisica Teorica and Struttura della Materia, Fai della Paganella (TN) - Italy, 26 - 29 march 2000.
- 10o Congresso Nazionale di Superconduttività - SATT X, Frascati (Rome) - Italy, 9-12 may 2000.
- Second Conference on The Exact Renormalization Group, Rome - Italy, 18-22 september 2000.
- XX Convegno di Fisica Teorica and Struttura della Materia, Fai della Paganella (TN) - Italy, 25 - 28 march 2001.
- INFMeeting, Rome - Italy, 18-22 june 2001.
- International Conference on Magnetism, Rome - Italy, 27 july -1 august 2003.
- Sup&Fox (Superconduttori e ossidi funzionali), Como - Italy, 19-22 june 2012.
- Magnet 2013 - III Convegno Nazionale di Magnetismo, Napoli - Italy, 20-22 february 2013.
- MAMA Trend - Trends, challenges and emergent new phenomena in multi-functional materials, Sorrento - Italy, 19-23
may 2013.
- FisMat 2013, Italian National Conference on

Condensed Matter Physics, Politecnico di Milano - Italy,
9-13 september
2013.

– International Conference - Spin Physics, Spin
Chemistry and Spin Technology, Saint Petersburg -
Russian Federation,
1-5 june 2015.

INVITED SEMINARS

- November 23rd 2000, The quantum-critical-point
scenario for high-T_c superconductors, department of
theoretical
physics, University Ludwig Maximilian, Munich
(Germany).

- January 25th 2001, Lo scenario del punto critico
quantistico di ordinamento di carica per i
superconduttori ad alta
temperatura di transizione, Department of Physics,
University of Roma 3, Rome (Italy).

- March 2nd 2001, La catena di Heisenberg
antiferromagnetica con spin intero in campo magnetico
alternato:
convergenza al limite termodinamico, Department of
Physics, University of Bologna, Bologna (Italia).

- October 18th 2001, Effetto isotopico anomalo nei
superconduttori ad alta temperatura critica, Department
of
Physical Sciences, University of Naples "Federico II",
Napoli (Italia).

- December 2nd 2002, The quantum-critical-point
scenario for high-T_c cuprates: pseudogap formation,

anomalous

isotope effect, and optical conductivity, department of physics, University Freiburg (Switzerland).

- June 28th 2005, L'effetto fotoelettrico, seminario per gli studenti in occasione dell'anno mondiale della fisica, Department of Physics, University of Rome Sapienza, Rome (Italy).

- July 13th 2006, L'effetto fotoelettrico, library of the Department of Physics, University of Rome Sapienza, Rome (Italy).

- March 24th 2007, La vita, l'universo and tutto quanto - la fisica teorica da Pitagora ai giorni nostri, with S. Bonella,

Department of Physics, University of Rome Sapienza, Rome (Italy), within the initiative L'università della notte - Europa dei saperi.

- May 21st 2007, La vita, l'universo and tutto quanto - un viaggio nella fisica teorica da Pitagora ai giorni nostri, with

S. Bonella, within the initiative Scienza 3 - Festival della Scienza del Municipio Roma 3.

- July 17th 2007, Quanto le teorie devono essere ragionevoli? Quando la natura è illogica, with E. Ippoliti, within the

initiative ESTATE alla Sapienza, Incontri promossi dall'AST - Ateneo della Scienza e della Tecnologia.

- April 19th 2013, Le armonie del mondo - la ricerca delle regolarità nei fenomeni naturali, with S. Bonella, within the

initiative Scienza 3 - Festival della Scienza del Municipio Roma 3.

- May 31st 2013, Le armonie del mondo - la ricerca delle regolarità nei fenomeni naturali, final meeting of the Stage

Scienza e Filosofia, Facoltà di Filosofia - Università di Roma Sapienza, Villa Mirafiori.

- October 24th 2013, discussion within D. Gillies, of the University College London, on his essay "Technological origins

of the Einsteinian revolution", at the Faculty of Philosophy of the University of Rome Sapienza, Villa Mirafiori.

- October 30th 2013, Electronic phase separation in superconducting heterostructures, Meeting on Correlation and

disorder in artificial low-dimensional structures", at the Department of Physics of the University of Rome Sapienza.

- January 31st 2014, Inhomogeneous superconductivity at oxide interfaces, at the Department of Physics of the University of Naples "Federico II".

- March 24th 2014, Inhomogeneous superconductivity in oxide heterostructures with strong Rashba spin-orbit interaction,

at the Ecole Supérieure de Physique et de Chimie Industrielles, Paris.

- May 18th 2017, Charge density waves rule the phase diagram of cuprates, presso l'Ecole Supérieure de Physique et de Chimie Industrielles, Paris.

SCHOOLS, CONGRESSES, WORKSHOPS

- II Italian-Swiss Workshop on Computational Condensed Matter Physics, S. Margherita di Pula (CA) - Italy, 15-22 september 1991.
- Euroconference on "Superconductivity in Fullerenes, Oxides and Organic Materials", Scuola Normale Superiore, Pisa, Italy, 25-29 january 1993.
- Edoardo Amaldi, physics, politics of research and civil commitment - University of Rome Sapienza, Italy, 20-21 december 1999.
- Physics for the 21st Century - University of Rome "Tor Vergata", Italy, 6-10 september 2000.
- Ab initio simulations in photochemistry: bringing together nonadiabatic dynamics and electronic structure theory - CECAM, Lyon (France), 23-25 may 2007.
- Theoretical and Experimental Studies of Quantum Dynamics in Condensed Phase Chemical Systems - Trinity College, Dublin (Ireland), 7-10 august 2007.

TEACHING ACTIVITY

Courses at the University of Rome Sapienza
(A.A.=academic year)

- A.A. 2003/2004: LABORATORIO DI FISICA SPERIMENTALE (TRATTAMENTO DATI) [8 CFU - SSD FIS01] - "Chimica industriale", 100 hours (including laboratory

training).

- A.A. 2005/2006: INTRODUZIONE ALLA MECCANICA QUANTISTICA [5 CFU - SSD FIS02] - "Fisica", "Fisica and astrofisica" [NDD] and "Tecnologie fisiche and dell'informazione".

- A.A. 2005/2006: COMPLEMENTI DI MECCANICA QUANTISTICA 1 [2 CFU - SSD FIS02] - "Fisica", "Fisica and astrofisica" [NDD] and "Tecnologie fisiche and dell'informazione".

- A.A. 2005/2006: MATERIA CONDENSATA [7 CFU - SSD FIS03] - "Fisica".

- A.A. 2006/2007: INTRODUZIONE ALLA MECCANICA QUANTISTICA [5 CFU - SSD FIS02] - "Fisica", "Fisica and astrofisica" [NDD] and "Tecnologie fisiche and dell'informazione".

- A.A. 2006/2007: COMPLEMENTI DI MECCANICA QUANTISTICA 1 [2 CFU - SSD FIS02] - "Fisica", "Fisica and astrofisica" [NDD] and "Tecnologie fisiche and dell'informazione".

- A.A. 2006/2007: FISICA GENERALE I [9 CFU - SSD FIS01] - "Matematica".

- A.A. 2007/2008: FISICA GENERALE I [9 CFU - SSD FIS01] - "Matematica".

- A.A. 2008/2009: FISICA GENERALE I [9 CFU - SSD FIS01] - "Matematica".

- A.A. 2008/2009: MECCANICA STATISTICA [5 CFU - SSD FIS02] - "Fisica" and "Fisica and astrofisica".

- A.A. 2009/2010: FISICA GENERALE I [9 CFU - SSD FIS01] - "Matematica".

- A.A. 2009/2010: SIMULAZIONE ATOMISTICA [6 CFU - SSD FIS03] - "Fisica".

- A.A. 2010/2011: FISICA GENERALE II [8 CFU - SSD

FIS01] del corso di laurea in "Matematica".

- A.A. 2011/2012: FISICA GENERALE II [9 CFU - SSD FIS01] del corso di laurea in "Matematica".
- A.A. 2012/2013: FISICA GENERALE II [9 CFU - SSD FIS02] del corso di laurea in "Matematica".
- A.A. 2013/2014: FISICA GENERALE II [9 CFU - SSD FIS02] del corso di laurea in "Matematica".
- A.A. 2014/2015: FISICA GENERALE II [9 CFU - SSD FIS02] del corso di laurea in "Matematica".
- A.A. 2015/2016: FISICA GENERALE II [9 CFU - SSD FIS02] del corso di laurea in "Matematica".

A.A. 2015/2016: ANALISI E TRATTAMENTO DEI DATI SPERIMENTALI [3 CFU - SSD FIS01] del corso di laurea in "Chimica".

A.A. 2016/2017: FISICA GENERALE II [9 CFU - SSD FIS02] del corso di laurea in "Matematica".

A.A. 2016/2017: MECCANICA ANALITICA E RELATIVISTICA [6 CFU - SSD FIS02] del corso di laurea in "Fisica".

OTHER TEACHING ACTIVITIES

- A.A. 1999/2000: tutoring for the course of FISICA - "Scienza naturali".
- A.A. 2000/2001: tutoring for the course of FISICA - "Scienza naturali".
- A.A. 2001/2002: preliminary courses in mathematics and physics for the corsi di Laurea in Fisica, 20 hours.
- A.A. 2001/2002: tutoring for the course of FISICA - "Scienza naturali".
- A.A. 2001/2002: tutoring for the course of

MECCANICA DEI SISTEMI CONTINUI [SSD FIS01] -
"Fisica" [NDC],

"Fisica and astrofisica" [NDD] and "Tecnologie fisiche
and dell'informazione" [NDE].

- A.A. 2001/2002: supplementary course of
MECCANICA DEI SISTEMI CONTINUI - "Fisica", "Fisica
and astrofisica"

and "Tecnologie fisiche and dell'informazione", 25 hours.

- A.A. 2002/2003: preliminary courses in mathematics
and physics for the corsi di Laurea in Fisica, 20 hours.

- A.A. 2002/2003: ho tenuto lezioni ed esercitazioni per il
corso di METODI MATEMATICI PER LA FISICA [SSD
FIS02]

dei corsi di laurea in "Fisica" [NDC] and "Tecnologie
fisiche and dell'informazione" [NDE], 24 hours.

- A.A. 2002/2003: tutoring for the course of MODELLI
and METODI MATEMATICI PER LA FISICA [SSD
FIS02] -

"Fisica" [NDC] and "Tecnologie fisiche and
dell'informazione" [NDE], 24 hours.

- A.A. 2003/2004: tutoring for the course of
MECCANICA STATISTICA [SSD FIS02] - "Fisica" [NDC]
and

"Tecnologie fisiche and dell'informazione" [NDE], 12
hours.

- A.A. 2003/2004: tutoring for the course of
COMPLEMENTI DI MECCANICA QUANTISTICA and
MECCANICA

STATISTICA [SSD FIS02] - "Fisica and
astrofisica" [NDD], 5 hours.

- A.A. 2003/2004 : course of SEMINARIO DI FISICA [2
CFU] "Teoria di Landau delle transizioni di fase" -

"Fisica"

[NDC].

- A.A. 2004/2005: tutoring for the course of FISICA GENERALE I [SSD FIS01] - "Metemantica" [NDF], 12 hours.

- A.A. 2004/2005: tutoring for the course of COMPLEMENTI DI MECCANICA QUANTISTICA and MECCANICA

STATISTICA [SSD FIS02], - "Fisica and astrofisica" [NDD], 12 hours.

- A.A. 2004/2005: course of COMPLEMENTI DI FISICA AVANZATA [3 CFU] - "Fisica" [NXL].

- A.A. 2004/2005: tutoring for the course of STRUTTURA DELLA MATERIA [SSD FIS03] - "Fisica" [NDC], 9 hours.

- A.A. 2005/2006 : tutoring for the course of FISICA GENERALE I [SSD FIS01] - "Metemantica" [NDF], 8 hours.

- A.A. 2005/2006: ho tenuto lezioni per il corso di COMPLEMENTI DI FISICA AVANZATA [3 CFU] del corso di laurea specialistica in "Fisica" [NXL].

- A.A. 2005/2006: course of SEMINARIO DI FISICA [2 CFU] "Applicazione di metodi variazionali alla meccanica

quantistica" - "Fisica" [NDC].

- A.A. 2006/2007: course of COMPLEMENTI DI FISICA AVANZATA [3 CFU] - "Fisica" [NXL].

- A.A. 2007/2008: module of MECCANICA STATISTICA of the course MECCANICA QUANTISTICA and STATISTICA [SSD FIS02] - "Fisica" [NDC] and "Fisica and astrofisica" [NDD], 40 hours.

PhD COURSES

- Apr. 1994: Scuola di Dottorato di Ricerca in Fisica dell'Università di Modena, "Fenomenologia ed aspetti teorici della superconduttività alle alte temperature", 8 hours.
- Mar. - Apr. 1996: PhD school in Physics of the Kungl Tekniska Hogskolan, Stockholm, "Semiclassical models for Bloch electrons", 10 hours.
- Feb. 2000: PhD school of the Scuola Internazionale di Studi Avanzati (SISSA/ISAS), Trieste, "Density-Matrix Renormalization Group: Theory and applications", 5 hours.
- May - Jun. 2000: Dottorato di Ricerca in Fisica dell'Università di Roma Sapienza, "Il gruppo di rinormalizzazione per la matrice densità: teoria and applicazioni", 8 hours.
- Mar. 2007: Dottorato di Ricerca in Fisica dell'Università di Roma Sapienza, "Metodi di seconda quantizzazione nella fisica della materia condensata", 20 hours.
- Mar. 2008: Dottorato di Ricerca in Fisica dell'Università di Roma Sapienza, "Metodi di seconda quantizzazione nella fisica della materia condensata", 20 hours.
- Mar. 2009: Dottorato di Ricerca in Fisica dell'Università di Roma Sapienza, "Metodi di seconda quantizzazione nella fisica della materia condensata", 20 hours.
- Mar. 2010: Dottorato di Ricerca in Fisica dell'Università di Roma Sapienza, "Metodi di seconda quantizzazione

nella fisica della materia condensata", 20 hours.

- Jun. 2013: Dottorato di Ricerca in Fisica dell'Università di Roma Sapienza, "Metodi di seconda quantizzazione nella fisica della materia condensata", 20 hours.

SUPERVISION OF THESES: I have supervised 80 bachelor theses, 20 master theses.

HIGH SCHOOL

- Sep. 1994 - May. 1995, courses of Matematica and Fisica at the Liceo Scientifico ed il Liceo Classico dell'Istituto

"Villa Sora" di Frascati (Rome).

- May 20th 2000 I passed the qualification test to teach Mathematics in High Schools (competition class Matematica

47/A, subject class 8).

- October 4th 2000 I passed the qualification test to teach Physics in High Schools (competition class Fisica 38/A, subject class 8).

PUBLICATIONS

ON JOURNALS WITH REFEREE

1. Phase separation and superconductivity in the Kondo-like spin-hole coupled model

N. Cancrini, S. CAPRARA, C. Castellani, C. Di Castro, M. Grilli, and R. Raimondi

Europhysics Letters 14, 597 (1991)

2. Three Band t-J Model: a Systematic Large-N Analysis

S. CAPRARA and M. Grilli

Physical Review B49, 6971 (1994)

3. Phase separation and superconductivity in strongly interacting electron systems

S. CAPRARA, C. Castellani, C. Di Castro, and M. Grilli

Physica C235-240, 2155 (1994)

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