Nora Brambilla

CURRICULUM VITAE

- April 2017-

Personal Data

Born	in Milano (Italy)
Citizenship	Italian
Family status	married, one son born 12/12/2005
Academic Degrees	Ph. D. (Milano U.), Habilitation in Theoretical Physics (Vienna U.)
Present Position	Professor, TU Munich Head of T30f-Theoretical Particle and Nuclear Physics
Address	Physik Department, Technische Universität München James-Franck-Str. 1, 85747 Garching, Germany Tel. +49 89 289 12353; Fax +49 89 289 1232 e-mail: nora.brambilla@ph.tum.de http://einrichtungen.physik.tu-muenchen.de/T30f Secretary: Frau Susanne Tillich, +49 89 289 12358
Private address	Pfarrer-Seeanner-Strasse 27a, 85748 Garching, Germany Tel. +49 089 32002667

Positions held

2002-2008	Assistant Professor (Tenured Position), U. Milano (Italy).
Summer 2005	Visiting Professor, IPN Orsay (France).
2001	Research Scientist (Tenured Position), Research Philips Laboratories , Aachen, (Germany).
2000	A. von Humboldt Fellow at the Institute of Theoretical Physics, U. Heidelberg, (Germany) and Visitor at the Theory Division, CERN.
1998-1999	Marie Curie Fellow, (European Community Program TMR), Institute of Theoretical Physics, U. Vienna (Austria).
1997	A. von Humboldt Fellow, Institute of Theoretical Physics, U. Heidelberg, (Germany).
1996	Postdoc at the Jefferson Laboratory, (VA), USA.
1994-1996	Postdoc at U. Milano (Italy).
1993	Professor of Mathematics at the Institute G. Ferraris, Milano.

Education and Qualification

Habilitation	November 1999, Habilitation in Theoretical Physics at the Inst. Theor. Phys., U. Vienna (Austria).
French Professor Qualification	April 1999 (Particle theory).
Ph. D.	1990-1993, Ph.D studies U. Milano (Italy). Ph. D. Sep. (no mark is given).
Scientific Collaboration	1988-1990, in Particle Physics, U. Milano.
Degree in Physics	May 1988, U. Milano (Italy) (110/110 cum laude).
Secondary School	1978-1983, Liceo Classico Manzoni, Lecco (Italy). Final examination (Diploma di Maturità) with full marks (60/60).

Prizes and Awards

- Elected Fellow of the American Physical Society (2012) "*for her contributions to the theory of heavy-quark-antiquark-systems, including the development of new effective field theories, and for contributions to the field of heavy-quarkonium physics throught the founding and leadership of the Quarkonium Working Group.*"
- Humboldt Fellowship for Long Term Cooperation (2002)
- Marie Curie Fellowship (1997)
- Humboldt Fellowship (1996)

RESEARCH ACTIVITY

Research Interests

Theoretical particle and nuclear physics; Strongly interacting matter; Effective Field Theories for the Standard Model and for Beyond the Standard Model; Effective field theories for QCD (HQET, NRQCD, pNRQCD, SCET, HTL, ChPT), Phenomenology of the strong interactions; Precise extraction of Standard Model parameters; Nonperturbative methods in field theory; Heavy quarks, Quarkonium, Exotics, hybrids and glueballs; Field theory at finite temperature, Physics of Heavy ions; Cosmology (applications of thermal field theory calculations to cosmological problems).
My research activity is relevant for experiments at JLAB, LHC, RHIC, tau-charm factories (BESIII), B-Factories (BELLE II), PANDA and CMB experiments at FAIR.

Visiting Scientist at

IFIC, U. Valencia (Spain); BNL, NY (USA); Fermilab, IL (USA); INT, U. Washington, Seattle (USA); Istituto Superior Tecnico, U. Lisbon (Portugal); Benasque Physics Center (Spain); ITP, IHEP, Tsinghua U. and Beijing U., Beijing (China); Jefferson Lab and U. Hampton, (VA) (USA); U. Heidelberg (Germany); TH Division CERN; U. Barcelona (Spain); IPN Orsay (France); JLAB, VA (USA); Argonne, IL (USA). U. Glasgow (UK); Humboldt U. Berlin (Germany); U. Wisconsin, Madison, WI (USA).

Invited Colloquia and Invited Seminars

About one hundred invited seminars and colloquia given at Universities and Research Laboratories.

Talks at Conferences

About one hundred and fifty invited plenary talks given at international conferences and workshops.

LEADERSHIP, EVALUATION and ORGANIZATION of SCIENTIFIC PROJECTS

The International Quarkonium Working Group (QWG)

In 2002 Nora Brambilla has founded (together with A. Boehrer, R. Mussa, M. Kraemer e A. Vairo) the International Quarkonium Working Group involving more than 100 experimental and theoretical physicists (http://www.qwg.to.infn.it/). Since 2002 she is Convener of the QWG and Organizer of the QWG meetings at:
CERN (November 2002), *Fermilab (September 2003)*, *at IHEP, Beijing, China (October 2004)*, *BNL (June 2006)*, *DESY (October 2007)*, *Nara U., Japan (December 2008)*, *Fermilab, USA (Spring 2010)*, *GSI, Germany (October 2011)*, *IHEP, Beijing, China (Spring 2013)*, *CERN (Fall 2014) PNNL, USA (Spring 2016) Beijing, China (Fall 2017)* and of the QWG school *a ITP, Beijing, China (October 2004).*
A *CERN Yellow Report on "Heavy Quarkonium Physics"* has been prepared in 2004 by the QWG under the QWG Conveners direction after three years of work. In 2010 after three years of work the second QWG document "Heavy quarkonium: progress, puzzles, and opportunities" has been finished under the direction of Nora Brambilla as editor and coordinator. Both documents have respectively 802 and 1111 citations and have deeply influenced the field.

Quark Confinement and the Hadron Spectrum

In 1994 Nora Brambilla has founded (together with G. Prosperi) the International Series of Conferences: "Quark Confinement and the Hadron Spectrum". Since then she has been in charge (together with the Advisory and the Organizing Committees of each edition) of the scientific program and the organization of:
Quark Confinement and the Hadron Spectrum XIII', *Maynooth, Ireland* Aug. 2018 (Co-Chair); *Quark Confinement and the Hadron Spectrum XII*', *Thessaloniki, Greece* Sep. 2016 (Co-Chair); '*Quark Confinement and the Hadron Spectrum XI*', *San Petersburg, Russia* Sep. 2014 (Co-Chair); '*Quark Confinement and the Hadron Spectrum X*", *Munich, Germany* Oct. 2012 (Chair); "*Quark Confinement and the Hadron Spectrum IX*", *Madrid, Spain* 2010; "*Quark Confinement and the Hadron Spectrum VIII*', *Mainz, Germany*, 1-6 September, 2008; "*Quark Confinement and the Hadron Spectrum VII*', *Azores, Portugal*, 2-7 September, 2006; "*Quark Confinement and the Hadron Spectrum VI*', *Villasimius, Italy*, September 21-25, 2004; "*Quark Confinement and the Hadron Spectrum V*", *Gargnano, Italy*, September 10-14, 2002; "*Quark Confinement and the Hadron Spectrum IV*", *Vienna, Austria*, July 3-8, 2000. "*Quark Confinement and the Hadron Spectrum III*', *Jefferson Lab, VA (USA)*, June 7-12, 1998; "*Quark Confinement and the Hadron Spectrum II*', *Como, Italy*, June 26-29, 1996. "*Quark Confinement and the Hadron Spectrum*" *Como, Italy*, June 20–24, 1994.

The Conference has become an important discussion forum and feautures seven topical sessions: confinement, light quarks, heavy quarks, deconfinement, QCD and precision physics; QCD and astrophysics/QCD and nuclear physics, QCD and strongly coupled theories. The edition of 2010 in Munich with about 400 participants and a lot of discussion was the occasion to start a document on the open challenges and broad impact of strong interactions. The document written in collaboration with about 50 people under the guidance of the editors (N. Brambilla,

S. Eideman, Y. Foka, S. Gardner, A. Kronfeld) has appeared in April 2014: *"QCD and Strongly Coupled Gauge Theories: Challenges and Perspectives"* Eur.Phys.J. C74 (2014) 10, 2981. It has currently 231 citations and is an important reference for the whole field of strong interactions.

EUBET: Bridges with Effective Field Theories

In 2014 Nora Brambilla (with F. Llanes Estrada) started the EUBET initiative "European Bridges with Effective Theories: from high energy to condensed matter". The scope of the research program of this network is to address a broad spectrum of physics from the high-energy to low-energy domain within the unifying frame of Effective Field Theories while simultaneously developing the needed advanced and tailored computational tools, both analytic and numerical. It involves scientists working in particle, nuclear, atomic physics, quantum optics and condensed matter in several universities and research centers in Munich, Hamburg, Barcelona, Valencia, Madrid, Orsay, Utrecht, Dublin and Bern. In October 2014 we have organized a meeting in Munich to define new research avenues and we are currently applying for a Marie Curie Network.

New TUM-IAS Focus Group

In 2014 Nora Brambilla has established a new TUM-IAS Focus Group for a joint project with the senior Hans Fischer Fellow A. Kronfeld (Fermilab) on *"Effective Field Theories and numerical lattice Gauge Theory"*. We also developed a synergy with the TUM-IAS Focus groups of "Complex Systems Modeling and Computation" and "Uncertainty quantification and Predictive modeling" that brought us to develop together a TUM-IAS Focal Period on "Predicting macroscopic behaviour from microscopic simulators".

New TUMQCD Lattice Group

In 2015 together with Peter Petreczky, Andreas Kronfeld and Antonio Vairo, Nora Brambilla has started a new TUMQCD lattice collaboration, based on the computing resources of C2PAP (Munich Universe Cluster of Excellence infrastructure) and the Supermuc at LRZ in Garching. The scope of this lattice collaboration is to evaluate relevant correlators at zero and finite temperature that arise in effective field theories formulations.

Principal Investigator

- Principal Investigator of the Cluster of Excellence "Origin and Structure of the Universe", Munich 2009–.
- Principal Investigator of the Transregio 110 "Symmetries and structure in QCD", Bonn, Munich, China, 2012–.

Member of Working Groups

Member of the *WG: Hadron Physics (2016–)* for the NuPECC (Nuclear Physics European Collaboration Committee) for the preparation of a new Long Range Plan for nuclear physics in Europe.
Member of the *WG: e^+e^- physics at LNF (2005-2006)* for the INFN Road-Map.
Convener of the *WG: τ and charm Physics (2006-2010)*, Flavianet RTN Network.
Convener of the *WG: Quarkonium Spectroscopy*, QWG (2002–).

Organization of Workshops, Institutes and Schools
(apart from the QWG and the CONF series)

• School, "School on Methods of Effective Field Theory and Lattice Gauge Theory" TUM-Munich, June. 26-July, 2017 (Chair).
• Workshop, " Machine Learning Challenges in Complex Multiscale Physical Systems" TUM-IAS Munich, Jan. 9-12, 2017 (with two other TUM-IAS Focus groups).
• Workshop, " Lattice Gauge Theory and Effective Field Theories" TUM-IAS Munich, May 18-21, 2016 (with A. Kronfeld).
• Workshop, " Lattice Gauge Theory and Effective Field Theories" Munich, November 26, 2014 (with A. Kronfeld).
• Meeting, " EUBET2014: Applications of Effective field theories to particle physics, Condensed matter and Quantum optics", Munich, October 9-10, 2014 (Chair).
• Institute, " Jets, Particle Production and Transport Properties in Collider and Cosmological Environments", MITP Mainz, July 28-August 8, 2014 (Coordinator, with D. Bödeker, F. Steffen, G. Moore, H. Meyer, A. Vairo).
• Workshop, "SCET 2014", Munich, March 2014 (with M. Beneke).
• Workshop, "Hadron 2011", Munich, June 13-17, 2011 (Vice-Chair, with S. Paul).
• Workshop, "Strong Interaction: from methods to structures", Bad Honnef, February 12-16, 2011. (with E. Epelbaum, H.W. Hammer, U. Meissner).
• Arbeitstreffen, "Kernphysik", Schleching, February 24-March 3, 2011 (Seminarleiter Hadron Structure).
• Workshop, "EuroFlavor2010", Munich, September 8-10, 2010 (Chair).
• International School, "*Flavor Physics*", Karlsruhe, September 7-18, 2009
(in collaboration with U. Nierste).
• Joint CATHIE-INT miniprogram, "*Quarkonium in Hot Media*",
Seattle (USA), June 16-26, 2009 (with P. Petreczky, D. Kharzeev, H. Satz, A. Vairo, R. Vogt).
• Chair of the Kavli Institute, "*EFT in Particle and Nuclear Physics*",
Beijing, July 20-August 28, 2009 (in collaboration with G. Bodwin, Y.Q. Chen, E. Eichten, M. Sanchis Lozano, M. Laine, A. Pich, A. Vairo, U. van Kolck).
• CERN Institute, "*Black holes: a landscape of theoretical physics problems*",
CERN, August 25-October 10, 2008 (in collaboration with L. Alvarez-Gaume, C. Gomez, S. Ferrara, E. Rabinovici).
• International School, "*Flavor Physics*", Benasque, July 13-25, 2008
(in collaboration with S. Peris, A. Pich, J. Portoles, J. Soto).
• ECT Institute, "*Heavy Quarkonium and related heavy quark states*",
Trento, August 16-31, 2006 (in collaboration with T. Mehen, J. Soto, A. Vairo).
• International School in "*Applications of Effective Field Theories*", Milano, Italy, Feb. 2-8, 2003 (in collaboration with R. Bonifacio).

Member of International Advisory Committees of Experiments

Member of the *Theory Advisory Committee of the Panda* experiment, GSI (Germany).

Member of International Advisory Committees of Conferences

— Hadron 2017, Salamanca (Spain), Sep. 25-29, 2017.
— Charm 2016, Bologna (Italy), Sep. 30-Oct 4, 2016.
— MENU 2016, Kyoto (Japan), 2016.
— Hadron 2015, JLAB (USA), Sep. 13-18, 2015.
— Charm 2015, Detroit (USA), May 17-23 2015.
— QNP 2015, Valparaiso (Chile), March 2-6 2015.
— Hadron 2013, Nara (Japan), Nov 4-8, 2013.
— MENU 2013, Rome (Italy), Sep. 30-Oct 4, 2013.
— Charm 2013, Manchester (UK), Aug 31-Sep. 4, 2013.
— Elba XIII, XIII , XII, Nuclear physics workshop at Elba (Italy), 2016, 2014, 2013.
— Charm 2012, Hawaii (USA), May 14-17, 2012.
— QNP 2012, Palaiseau (France), Apr. 16-20, 2012.
— Hadron2011, Munich (Germany), 13-17 June 2011.
— Charm 2010, Beijing (China), October 21-24, 2010.
— Euroflavor09, Bari (Italy), 6-8 November 2009.
— QNP 2009, Beijing (China), Sep. 21-26, 2009.
— Charm 2009, Leimen (Germany), May 20-22, 2009.
— International Conference EFTs from Pion to Upsilon, Valencia, (Spain), 2-7 Feb, 2009.
— Euroflavor08, Durham (UK), 22-26, September 2008.
— Euroflavor07, Paris (France), 14-16, November 2007.
— Charm 2007, Cornell (Usa), Jul.31-Aug.3, 2007.
— Euroflavor06, Barcelona (Spain), 2-4, November 2006.
— ICHEP'06 (the High Energy Rochester Conference), Moscow (Russia), 26 July-8 August 2006
— IV Int. Conf. Quarks and Nuclear Physics, Madrid (Spain), 5-10 July 2006.
— International Conference on Nuclear and Particle Physics, Dubrovnik, Croatia, 3-10 Nov. 1998.

Member of International Advisory Committees of Schools

— Hadron Spectroscopy Cabeo School, Ferrara (Italy), May 21-26, 2012.
— IPM School on Applied ADS/CFT, Isfahan (Iran), May 2-May 11, 2011.
— School on Flavour Physics, Bern (Switzerland), June 21-July 2, 2010.

Convener of International Conferences Sections

— Convener for 'Heavy Quark Physics' ICHEP'06 (the High Energy Rochester Conference).

Evaluation of Research Grants/Prizes/Position/Promotions

European Commission *Expert in the Physics Panel* for the Marie Curie Actions; **Research Promotion Foundation, Cyprus**; *Expert in the evaluation of research proposals*; **Swiss National Science Foundation** *External reviewer*; **Assessor for the Irish Research Council** *IRCSET Postdoctoral Fellowships*; **Referee for A. von Humboldt Foundation** *A. von Humboldt Fellowships*; **Referee for Qatar QNRF** *Research Grants Qatar National Research Fund*; **Referee for the Italian Research Evaluation** *Evaluation of the italian research-particle and*

nuclear; **Referee for the European Science Foundation** *Evaluation of workshops/networks*; **Referee for the Croatian Agency, the SRNSF Georgian Foundation, the Netherlands Foundation for Fundamental Research and the French Research Agency** *Evaluation of grants*; **Referee for the DFG** *Evaluation of research groups and grants*; **Referee for the DOE** *NP research review*; **Referee for several Tenure Evaluations and Full Professorship Promotion** *USA and Canada.*

Research Projects and Funds

- *DFG grant* DFG BR 4058/1-2 "Probes of Hot Plasma", 2015-2017 (1 postdoc, travel funds).
- *Volkswagen grant* for the Organization of a "School on EFT and lattice", 2017 (about 30.000 euros).
- *KONWIHR Grant* Bayern Staatsministerium, 25000 euros for a lattice QCD project, 2015.
- *BMBF grant* Verbundprojekt 05P2015 -ALICE at High Rate (BMBF-FSP 202): Field theory based investigations of ALICE physics, with N. Kaiser and A. Vairo, 2015–(1 postdoc, travel funds).
- *TUM-IAS*, Postdoc Fellowship with A. Kronfeld, 2015– (1 postdoc, travel funds)
- *Humboldt Foundation*, Postdoc Fellowship, 2015– (1 postdoc, travel funds)
- *Cluster of the Excellence Universe Munich*, Seed project on lattice calculation of QCD correlators, 2014– (1 postdoc, travel funds)
- *PI of the CRC 110*, Symmetries and Structures in QCD, 2012– (1 postdoc).
- *DFG grant for the Organization of ConfinementX*, 2012 (about 30.000 euros).
- *Funds for a Ph. D. position* Cluster of Excellence "Universe", 2012-2015.
- *Funds for a Ph. D. position* IMPRS, 2012-2013.
- *DFG grant* DFG BR 4058/2-1 "Effective Field Investigations of jet quenching in heavy ion collisions and of quarkonium production at zero and finite temperature", 2012–2015 (1 postdoc, travel funds).
- *DAAD grant* for a Ph. D. position, 2010-2014.
- *DFG grant* DFG BR 4058/1-1 "Effective Field Theories for Strong Interactions with Heavy Quarks", 2010-2013 (1 postdoc, travel funds).
- *BMBF funds for a Ph. D. position*, 2009-2012.
- *Sonderprogramm "Neuberufene Professorinnen"*, Bayern, funded with 30.000 euro (2009).
- *Member of the Steering Committee* of the European network FLAVIANET (fisica del flavor) (funded by the EC: 2006-2010).
- *Coordinator "ERG (European Reintegration Grant)", U. Milano*, funded by the European Commission (FP6 Proposal 510967 NREFT) with 40000 euro, 2004-2005.
- *Coordinator "Iniziativa Specifica INFN", U. Milano*, funded for 2002-2008.
- *Coordinator "Azione Esplorativa", U. Milano*, funded for 2003-2006.
- *Coordinator INFN-MEC Italy-Spain Exchange Program*, funded for 2003-2007.

- *"Azioni integrate" between Italy and Spain*, funded by MIUR for 2004/2006.
- *Wissenschaftlich-Technisches Abkommen mit Spanien Programm 'Acciones Integradas 1999-2000 (Austria-Spain Exchange Program), Project 13/99* grant for a collaboration with J. Soto, Barcelona.
- *NATO Collaboration Grant* with Jefferson Lab (Newport News, Virginia) NATO Grant Contract No. CRG900574.

Referee/Editor Tasks

•*Referee of* Phys.Rev.D, C; Phys.Rev.Lett.; Phys.Lett.B; Eur.Phys.J.C, A; JHEP; Nucl.Phys.B.
•*Chief Editor (2003-2006), MCFA Annals*, published by the European Commission.
•*Editor of Proceedings of Quark Confinement and the Hadron Spectrum (QCHS):*

– "QCHS XII", EPJ, 2017, Y. Foka, N. Brambilla, V. Kovalenko, Editors;
– "QCHS X", PoS, 2013, M. Berwein, N. Brambilla, S. Paul, Editors;
– "Hadron 2011", S. Gruber, S. Paul, N. Brambilla, Editors;
– "QCHS VIII", PoS, 2009, N. Brambilla, M. Neubert Editors;
– "QCHS VI", AIP, 2005, N. Brambilla et al.;
– "QCHS V", World Scientific, 2003, N. Brambilla and G. Prosperi Editors;
– "QCHS II", World Scientific, 1997, N. Brambilla and G. Prosperi Editors;
– "QCHS", Worls Scientific, 1995, N. Brambilla and G. Prosperi Editors.

Editor with B. Grube and S. Paul, Proceedings Hadron 2011.

Service in Evaluation Committees/Professor Positions

Member of Committees for several W2/W3 or tenure track position at TUM and other German universities.

Member of a Committee for a 5 years position, IST Lisbon (Portugal), 2008.

Rapporteur for the Habilitation of Dr. Robbe paris Sud XI 2012, Dr. Morenas, U. Clermont Ferrand (France), Nov. 2006.

Member of a INFN Committee for a a position of INFN researcher, U. Torino (Italy), May 2003.

Referee for the Academia Europaea Prize, 2008.

Host of Von Humboldt Prize Winners

Prof. C. Quigg (Fermilab), Humboldt Prize-reinvitation Spring 2016; *Prof. A. Pich (Valencia)*, Humboldt prize 2010, TUM 2011– (co-host with A. Buras). Host of several Humboldt Fellows.

Postdocs

Dr. Javad Komijani, TUM 2015-2017 (TUM-IAS funds) *Dr. Jorge Segovia*, TUM 2015-2017 (Humboldt funds) *Dr. Johannes Weber*, TUM 2014-2017 (Seeds and BMBF funds) *Dr. Jaume Tarrus*, TUM 2013-2016 (CRC funds)
Dr. Miguel Escobedo, TUM 2011-2014 (DFG funds)
Dr. Michael Benzke, TUM 2011-2014 (BMBF/DFG funds)
Dr. Hossein Malekzadeh, TUM 2009-2011 (Cluster Origin of Universe funds)
Dr. Massimiliano Procura, TUM 2009-2010 (BMBF funds)
Dr. Felix Karbstein, TUM, Fall 2009- Fall 2010 (Cluster Origin of Universe funds/Fazit Stipendium)

Dr. Carlo Ewerz, Feodor Lynen Fellow, U. Milano, 2004-2005, (funded by Humboldt Association); *Dr. Yu Jia*, U. Milano, 2004-2005 (funded by EC).

Initiator of

"The Casimir Innovation and Research Space" to favour research collaboration between industry and academia (http://wwwteor.mi.infn.it/~brambill/casimir.html).

TEACHING and TRAINING of Young Researchers

Courses given

- 2016-2017 WS *Quantum Mechanics 2*, Physics Department, TUM.
- 2016 SS *QuantenMechanik 1*, Physics Department, TUM.
- 2015-2016 WS *Quantum Field Theory*, Physics Department, TUM.
- 2015 SS *Relativity, Particles and Fields*, Physics Department, TUM.
- 2014-2015 WS *Quantum Mechanics 2*, Physics Department, TUM.
- 2014 SS *Particle Physics of the Standard Model*, Physics Department, TUM.
- 2013-14 WS *Advanced Quantum Field Theory*, Physics Department, TUM.
- 2013 SS *Introduction to Quantum Field Theory*, Physics Department, TUM.
- 2012 SS *Particle Physics II*, Physics Department, TUM.
- 2011-2012 WS *Particle Physics I*, Physics Department, TUM.
- 2011- SS *Thermal Field Theory*, Physics Department, TUM.
- 2010-11 WS *Advanced Quantum Field Theory*, Physics Department, TUM.
- 2010 SS *Introduction to Quantum Field Theory*, Physics Department, TUM.
- 2009 WS *Special Relativity*, Physics Department, TUM (Germany).
- 2009 SS *Introduction to QCD*, Physics Department, TUM (Germany).
- 2007-2008 *Laboratory of Measurements (Theory)* , D. Biologia, U. Milano (Italy).
- 2006-2007 *Thermodynamics*, Dipartimento di Fisica, U. Milano.(Italy).
- 2003-2006 *Computer Laboratory* Dipartimento di Fisica, U. Milano (Italy).
- 2002 *Mechanics* at Universita' di Milano , Milano (Italy).
- 1993 *Mechanics* Politecnico di Milano (Italy).(Teaching Assistant (TA))
- 1992–1993 *Calculus* Engineering U., Lecco. (Italy).(TA)
- 1992-1993 *Electrodynamics and Optics* Engineering U., Bergamo (TA).

Invited Advanced Lectures Series

- July 2013, *Lecture 'Quarkonium'* at the summer school *'Physics of Heavy Quarks and Hadrons'*, Dubna (Russia).
- July 2012, *Lecture 'Effective Field Theory of QCD'* at the doctoral school *'HGS-HIRe Lecture Week on Hadron Physics'*, Schloss Rauischholzhausen (Germany).
- January 2007, *Lecture 'Heavy Flavour in QCD'* at the doctoral school *'Hadrons in Vacuum, Nuclei and Stars'*, U. Graz (Austria).

- October 2004, *Lectures 'Introduction to pNRQCD'* at the graduate *'QWG School',* ITP, Beijing (China).
- June 2004, *Lectures 'QCD Effective Field Theories',* at the graduate school HUGS2004, Jefferson Lab (VA, USA) and *Lectures "Introduction to QCD bound states'* at the COSM school, U. Hampton (VA,USA).
- May 2004, *Lectures on 'QCD Effective Field Theories',* at ITP, Beijing (China).
- June 1998, *Lectures on 'Quark confinement and the Hadron Spectrum'* at the Graduate School HUGS1998, Jefferson Lab (VA,USA).
- April 1997, *Lectures "Monopoles and duality"* at the Workshop des Graduiertenkolleges in Oberflockenbach, Oberflockenbach (Heidelberg, Germany).

Diploma Students

Diploma Thesis TUM: T. Rosenhammer "Electric Dipole Transitions" (2012-2013); M. Berwein "Wilson loops at finite temperature" (2010-2011); P. Pietrulewicz "Radiative transition in quarkonium with EFT" (2010-2011).
Diploma Thesis Advisor U. Milano: 2007–2008 J. Ghiglieri, "Quarkonium at finite T" (110/110 e lode); 2006-2007 D. Trezzi, "Positronium Production" (Athena-Aegis experiment CERN) (110/110 e lode); 2004-2005 E. Mereghetti, "Quarkonium decays in NRQCD" (110/110 e lode).
Diploma Thesis Co-Advisor U. Milano (Subject QCD): 2003-2004 C. Simolo, 1993-1994 P. Consoli, 1992-1993 M. Baldicchi.
Tutoring Diploma Thesis U. Heidelberg (Germany) 2003 T. Rösch, "pNRQCD for heavy baryons"; 2003 K. Müller, "Hybrids and Gluelumps".

Ph. D. students

Ph. D. Advisor of Vladyslav Shtabovenko "Jets and Quarkonium production at LHC", TUM, 2012-2016.

Ph. D. Advisor of Simone Biondini "Dark matter, EFTs for BSM", TUM, 2012-2016. **Prize for the best Ph. D. Thesis, Universe Cluster of Excellence.**

Ph. D. Advisor of Matthias Berwein "EFTs for Heavy Ion Physics at LHC", TUM, 2011-2015 (score 1) **Finalist for the DPG Prize for the best Ph. D. thesis**

Ph. D. Advisor of Hector Martinez "EFT in QCD", TUM, 2010-2015.

Ph. D. Advisor J. Ghiglieri "EFT for QCD at Finite T", TUM, 2008-11(Score 1). **DPG Prize for the best Ph. D. thesis.**

Member of the Ph. D. Jury of Lisa Carloni, "Quarkonium Production", Lund, (Sweden), March 2011.

Member of the Ph. D. Jury Pierre Artoisenet, "Quarkonium Production", Leuven, (Belgium), May 2009.

External Referee Ph. D. Thesis R. Ferrandes "Universal Extra Dimension and Beauty Hadron Physics", U. Bari, 2008.

Member of the Ph. D. Jury Frederic Jugeau, "Loops in QCD" Orsay, IPN (France), July 2003.

Co-advisor Ph. D. Thesis S. Erba "Decadimenti del D in Focus", 2003-2005, U. Milano.

Bachelor students

M. Hasenörl "van der Waals forces", TUM, 2016.
P. Landgraf "Applications of Quarkonium dissociation at LHC", TUM, 2015.
L. Felsberger "Applications of Hydrodynamics to Heavy Ion Collisions", TUM, 2014.
Georg Stockinger "Quarkonium dissociation at LHC", TUM, 2013.
Andreas Mütter "Hybrid masses in QCD", TUM, 2013.
Steffen Biermann "Van der Waals interaction in QCD", TUM, 2013.
Johannes Mellentin "Thermal Production of Dark Matter", TUM, 2012.
Tobias Denk "Quirky Composite Dark Matter", TUM, 2011 (score 1.7).
Michael Groher "String contributions to $Q\bar{Q}$ potentials",TUM, 2011.

Academic Engagements

Member of the Faculty Council TUM Fall 2010–.

Member of the Committee for the qualification to the master courses in nuclear and astroparticle physics TUM Fall 2011–.

Member of the Committee for the GHP APS Fellowship Topical Group on Hadronic Physics, American Physical Society, 2014.

Professional Organization Membership

American Physical Society; Società Italiana di Fisica; Marie Curie Fellowship Association (MCFA).

Services in Professional Organization Membership

VicePresident of the Marie Curie Fellowship Association (2002-2005).
Appointed member of the committee on Meetings of the American Physical Society (2014-2016).

Science Policy, Outreach and Science for the Public

- *Talk for the Public* at the Meeting "Fundamental Interactions", Naples (Italy), March 2008.
- *Responsible of a fixed column on "Science and Technology"*, "Rivista Sapere" 2003-2005.
- *Invited member of the Plenary Panel on Science and Science policy*, "EC Conference on the launch of the FP6 program", 11-14 November 2002.
- *Invited Speaker* Conference on Science and Technology, CERN, 3-4 October 2002.
- *Responsible* of the science policy of MCFA, 2002−2004.
- *Invited to participate in the Conference of the European Commission:* " Investing in Europe's Human Research Potential", 4-7 Oct. 2000, Crete and *Rapporteur for the* working group "Matching needs and capacity of researchers in Europe".

Invited Series of Lectures at Collegio Universitario di Milano

Lectures "The Particle Hunters: from Reductionism to Emergentism", January 2006.