

## Curriculum Vitae – Vittorio Del Duca

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My research deals with the computation and properties of scattering amplitudes, in particular applied to the evaluation of Higgs and jet production rates at LHC and future colliders, and to the computation of gravitational wave emission in binary systems of compact objects.

As of December 2024, I am the author of 92 research papers and 56 conference proceedings and reviews. My work gathered a total of 6628 citations (excluding self-citation) and leads to an h-index of 43 (excluding self-citation). A full list including bibliometric information may be found in the INSPIRE database.

### Current Positions

2006– Senior Researcher, INFN, Laboratori Nazionali di Frascati, Italy  
2012– Associate Member, Higgs Centre for Theoretical Physics, Edinburgh, UK

### Previous Positions and Visiting Appointments

2021–2023 Visiting Researcher, Physik-Institut, University of Zürich, Switzerland  
2015–2021 Visiting Researcher, Institute for Theoretical Physics, ETH Zürich, Switzerland  
2010 Visiting Researcher, CERN  
2003 Visiting Researcher, CERN  
1999–2000 Visiting Researcher, CERN  
1997–2006 Researcher, INFN  
1996–1998 Lecturer, University of Edinburgh, UK  
1993–1995 Postdoctoral Researcher, Deutsches Elektronen-Synchrotron (DESY), Germany  
1990–1993 Postdoctoral Researcher, Stanford Linear Accelerator Center (SLAC), USA

### Education

1990 Ph.D. in Physics, State University of New York at Stony Brook, USA  
1985 Laurea in Fisica, "magna cum laude", University of Torino, Italy

### Funding

2024–2026 INFN Iniziativa Specifica *Amplitudes*, Principal Investigator  
2017–2021 COST Action CA16201 *PARTICLEFACE*, Short Term Scientific Mission coordinator and Management Committee member  
2011–2014 7th Framework Programme of the European Commission, Initial Training Network *LHCPhenoNet*, scientist-in-charge of INFN team (508 KEuro to INFN)

### Recent invited conference talks

Over 100 invited talks and presentations at conferences and workshops (a comprehensive list may be found in the webpage), including:

2024 *Higgs Centre for Theoretical Physics*, Edinburgh, UK  
2022 *19th Workshop of the LHC Higgs Working Group*, CERN  
2022 *High Precision for Hard Processes (HP2)*, Newcastle, UK  
2022 *Flowing into the Future: Particle Jets in Quantum Field Theory and Phenomenology*, Simons Center, Stony Brook, USA  
2018 *Amplitudes 2018*, SLAC, Stanford, USA

2018 *QCD@Work, International Workshop on QCD*, Matera, Italy  
 2018 *New Frontiers in Theoretical Physics*, Cortona, Italy

### Supervision of students and junior researchers

Postdocs: N. Kidonakis, F. Maltoni, G. Bevilacqua, F. Moriello, F. Alessio  
 PhD students: A. Frizzo, C. Duhr, F. Moriello, H. Frellesving, O. Gurdogan, O. Almelid, S. Lionetti, G. Salvatori, R. Haindl, E. Rosi  
 MSc students: F. Moriello, R. Haindl, M. Canay, K. Leyde, C. Rouat, Q. Zizang, C.S. Sasank, D. Barcaro, A. De Simone

### Organisation of scientific events

2025 *FCC-ee and Lepton Colliders*, LNF Frascati, Italy  
 2011–2025 *School of Analytic Computing in High-Energy and Gravitational Theoretical Physics*, Atrani, Italy  
 2024 *High Luminosity LHC and Hadron Colliders*, LNF Frascati, Italy  
 2022 *From Scattering Amplitudes to Gravitational-Wave Predictions for Compact Binaries*, ICS Zürich, Switzerland  
 2019 *Towards accuracy at small  $x$* , Higgs Centre, Edinburgh  
 2019 *Amplitudes 2019*, Dublin  
 2018 *Amplitudes in the LHC era*, Galileo Galilei Institute, Firenze  
 2018 *Subtracting Infrared Singularities beyond NLO*, Higgs Centre, Edinburgh  
 2017 *Elliptic integrals in math and physics*, ETH Zürich  
 2017 *Iterated Integrals and the Regge Limit*, Higgs Centre, Edinburgh  
 2017 *The elliptic/missing Feynman integrals*, ETH Zürich  
 2012 *Mid-Term Meeting of LHCPheNet*, Ravello, Italy  
 2007 *Advancing Collider Physics: from Twistors to Monte Carlos*, Galileo Galilei Institute, Firenze  
 2006–2008 *Monte Carlo, Physics and Simulations at LHC*, LNF Frascati, Italy  
 2004–2010 *Physics of LHC*, Lecce, Italy  
 2000 *Standard Model Physics at the LHC*, CERN  
 1998 CERN European School, St. Andrews, Scotland

### Reviewing activities

*Reviewer for funding applications to the agencies:*

European Research Council, American Physical Society, Fonds Recherche Scientifique – FNRS (Belgium), Israel Science Foundation, Ministero Istruzione Università Ricerca (Italy), Particle Physics Astronomy Research Council (UK), Royal Society (UK)

*Reviewer for peer-reviewed journals:*

European Physics Journal C, Journal of High Energy Physics, Nuclear Physics B, Physics Letters B, Physical Review D, Physical Review Letters

*Reviewer for faculty positions:*

IPPP Durham, University of Edinburgh

*External examiner:*

EPFL Lausanne, University of Edinburgh, Université Catholique de Louvain

### Committee activities

2009–2014	Italian delegate to the European Committee for Future Accelerators (ECFA)
2005–2008	Theory member of INFN National Scientific Committee for high-energy experiments
2005	PI of the proposal <i>QCD@LHC</i> for an EC Research Training Network
2003	PI of the proposal <i>HardQCD@LHC</i> for an EC Research Training Network
1999 - 2000	Member of UK PPARC Panel charged to evaluate bids to establish IPPP

### Teaching activities

2024	Training course on <i>A NLO subtraction method for QCD cross sections</i> , ETH Zürich
2024	Lecture course on <i>Scattering Amplitudes</i> , University of Roma Tor Vergata
2020–2022	Lecture course on <i>Scattering Amplitudes</i> , ETH Zürich
2019–2020	Lecture course on <i>Introduction to Quantum Chromodynamics</i> , ETH Zürich
2017	Training course on <i>A (N)NLO subtraction method for QCD cross sections</i> , ETH Zürich
2017	Training course on <i>The BFKL Equation and the Multi-Regge Kinematics in QCD and in N=4 SYM</i> , ETH Zürich
2016	Training course on <i>An Introduction to the Perturbative Pomeron and to the BFKL Equation in QCD and in N=4 SYM</i> , ETH Zürich
2015	Lecture course on <i>Classical Mechanics</i> , ETH Zürich
2009–2011	Lecture course on <i>QCD at the LHC</i> , University of Roma Tre
2008	Lecture course on <i>QCD in the LHC era</i> , University of Salerno
1999–2003	Lecture course on <i>Parton Model and QCD</i> , University of Torino
1999	Lecture course on <i>Parton model and QCD</i> , Weizmann Institute
1998	Training course on <i>Renormalisation</i> , Universities of Edinburgh and Torino
1997	Lecture course on <i>A Path to QCD</i> , University of Edinburgh
1996–1997	Lecture course on <i>Quantum Physics</i> , University of Edinburgh
1996	Training course on <i>The perturbative QCD pomeron</i> , Michigan State University
1995	Training course on <i>The perturbative QCD pomeron</i> , DESY
1994	Training course on <i>The BFKL equation</i> , University of Torino

### Outreach

2011–2015	Lectures on <i>The Large Hadron Collider and the Standard Model of particles</i> , for high-school students and teachers, LNF
2008	Articles on the Italian newspaper <i>La Stampa</i> , on the start of LHC at CERN
2008	An interview with P. Higgs, " <a href="http://www.lnf.infn.it/theory/delduca/higgsinterview.pdf">www.lnf.infn.it/theory/delduca/higgsinterview.pdf</a> ", in the INFN journal <i>Asimmetrie</i> and in the Italian edition of <i>Scientific American</i>