CURRICULUM VITAE - Vittorio Del Duca

Date and place of birth

October 3, 1962, Salerno, Italy.

Affiliation

Istituto Nazionale di Fisica Nucleare
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Education

Laurea in Fisica, magna cum laude, November 14, 1985 at the University of Torino. Thesis *Simboli 3-j per l'estensione centrale di gruppi finiti*; adviser Prof. T. Regge.

Ph.D. in Physics, May 20, 1990 at the State University of New York at Stony Brook. Thesis *The infrared behavior of gauge theorie*; adviser Prof. G. Sterman.

Academic Positions

Research Associate at the Stanford Linear Accelerator Center (SLAC), Stanford University, CA, USA, from October 1, 1990 to September 30, 1993.

Scientific Associate at the Deutsches Elektronen-Synchrotron (DESY), Hamburg, Germany, from October 1, 1993 to December 31, 1995.

Lecturer at the University of Edinburgh, Scotland, from January 1, 1996 to September 30, 1998.

Ricercatore INFN since December 16, 1997.

Visiting Scientist at CERN, Geneve, from August 4 to 18, 1999.

Scientific Associate at CERN from November 1, 1999 to April 30, 2000.

Visiting Scientist at CERN from May 1 to 31, 2000.

Visiting Scientist at CERN from October 8 to November 23, 2001.

Visiting Scientist at CERN from July 29 to August 23, 2002.

Scientific Associate at CERN from September 1 to December 31, 2003.

Visiting Scientist at the Institute for Theoretical Physics, UC Santa Barbara, USA, from February 5 to March 27, 2004.

Visiting Scientist at SLAC from February 23 to March 8, 2004.

Visiting Scientist at IPPP, Durham, UK, from July 14 to August 15, 2004.

Visiting Scientist at CERN from September 6 to October 10, 2004.

Visiting Scientist at CERN from August 1 to 21, 2005.

Visiting Scientist at CERN from July 17 to August 16, 2006.

Research Grants and Fellowships

Fellow of the A. Della Riccia Foundation from 1986 to 1989.

Holder of a NATO Collaborative Research Grant from 1995 to 1998, in collaboration with C.R. Schmidt of the Michigan State University, USA.

Management Know-how

Member of the UK Particle Physics and Astronomy Research Council (PPARC) Panel charged to evaluate bids from UK academic institutions to establish and host an Istitute for Particle Physics Phenomenology (IPPP), from December 1999 to March 2000.

PPARC referee for a UK Joint Infrastucture Fund (JIF) application for the establishment of a Durham Centre for Fundamental Physics, required to house and equip the IPPP and the Istitute for Advanced Astronomical Computation, June 2000.

Coordinator of the proposal "Dynamics of Short-Distance Strong Interactions at LHC" for a *Research Training Network*, under the call FP6-2002-Mobility-1 of the 6^{th} Framework Programme of the European Commission.

Coordinator of the proposal "Dynamics of Short-Distance Strong Interactions at LHC" for a *Research Training Network*, under the call FP6-2005-Mobility-1 of the 6^{th} Framework Programme of the European Commission.

Member of the scientific board of the *Italo-Hellenic School of Physics* "The Physics of LHC", Lecce, May 2004 and June 2005 and June 2006 (www.le.infn.it/lhcschool) and *www.cerncourier.com/main/article/44/7/30/3* and *www.cerncourier.com/main/article/45/10/20/5.*

Member of the organizing committee of the INFN workshop on Monte Carlo, Physics and Simulations at LHC (MCWS), LNF Frascati 2006.

Member of the INFN high-energy experiment National Scientific Committee as an observer of the theory National Scientific Committee, from February 2005.

Positions in International Meetings

Convener of the parallel session on *Diffractive Physics* at *DIS96*, 4^{th} Workshop on *Deep Inelastic Scattering and Related Phenomena*, Roma, Italy.

Discussion leader at the 1998 CERN European School of High-Energy Physics, St. Andrews, Scotland.

Convener of the parallel session on *Soft interactions: Hadronic structure, low-x physics and diffraction* at the Europhysics Conference on High Energy Physics, EPS-HEP99, Tampere, Finland.

Coordinator of the sections *Available NLO calculations and prospects at NNLO* and *Small-x Physics* in the chapter *QCD* of the Workshop on Standard Model Physics (and more) at the LHC, CERN, Geneve, 2000.

Convener of the section *Hadronic Physics* at IFAE, Lecce, 2003.

Publications

Papers in refereed journals: 42
Proceedings of international meetings: 43

Invited Talks at Conferences, Workshops, Meetings

Tensor Algebra for the Icosahedral Group at XVII International Conference on *Group Theoretical Methods in Physics*, Sainte-Adele, Canada, 1988.

The Mueller-Navelet Jets at the Rocky Mountain Consortium Summer Workshop 1 on *Physics and detectors at the SSC*, Boulder, CO, USA, 1992.

Jet inclusive cross sections at the 7^{th} Meeting of the Division of Particles and Fields *DPF92* of the *APS*, Fermilab, Batavia, IL, USA, 1992.

Parton-Parton Elastic Scattering and Rapidity Gaps at SSC and LHC Energies at the Workshop on *Physics at Current Accelerators and the Supercollider*, Argonne National Lab., Argonne, IL, USA, 1993.

Parton-Parton Elastic Scattering and Rapidity Gaps at Tevatron Energies at the 5^{th} Blois Workshop on *Elastic and Diffractive Scattering*, Providence, RI, USA, 1993.

Dijet Production at Large Rapidity Intervals at the Tevatron and HERA at *DIS94*, 2^{nd} Workshop on *Deep Inelastic Scattering and Related Subjects*, Eilat, Israel.

Azimuthal Angle Decorrelation in Large-Rapidity Dijet Production at the Tevatron at the Workshop *QCD 94*, Montpellier, France.

Transverse Momentum Distributions in Large-rapidity Dijet Production at the Tevatron at the 6^{th} Rencontres de Blois, Blois, France, 1994.

Rapidity Gaps and Jets at Hadron Colliders at the International Summer Institute on *Hadron Structure and QCD in Hard Processes*, ECT*, Trento, Italy, 1994.

Rapidity Gaps and Rapidity Intervals at Hadron Colliders at the Summer Institute *From Particle Physics to Cosmology - QCD*, Gran Sasso, Italy, 1994.

Rapidity Gap Physics at Hadron Colliders at the 2^{nd} Workshop on *Small-x and Diffractive Physics at the Tevatron*, Fermilab, Batavia, IL, USA, 1994.

Multigluon Amplitudes in the High-energy Limit at XXX Rencontres de Moriond, Les Arcs, France, 1995.

Forward Jet Production in DIS at *DIS95*, 3^{rd} Workshop on *Deep Inelastic Scattering and QCD*, Paris, France.

Theory of Hard Diffraction and Rapidity Gaps at the 10^{th} Topical Workshop on *Proton-Antiproton Collider Physics*, Fermilab, Batavia, IL, USA, 1995.

Soft, Semihard and Hard Photon-Photon Physics, at the Workshop on e^+e^- *Collisions at TeV Energies*, Annecy, Gran Sasso, Hamburg, 1995.

Next-to-leading Corrections to the BFKL Equation at Les Rencontres de Physique de la Vallee d'Aoste, La Thuile, Italy, 1996.

Forward Jets at HERA and at the Tevatron at *DIS96*, 4^{th} Workshop on *Deep Inelastic Scattering and Related Phenomena*, Roma, Italy.

Large Rapidity Gaps between Jets at HERA and at the Tevatron at *DIS96*, 4^{th} Workshop on *Deep Inelastic Scattering and Related Phenomena*, Roma, Italy.

Diffractive Interactions Summary talk of the Diffractive Physics parallel session at *DIS96*, 4^{th} Workshop on *Deep Inelastic Scattering and Related Phenomena*, Roma, Italy.

Theory of Double Hard Diffraction at the XI Symposium on *Hadron Collider Physics*, Abano Terme, Italy, 1996.

Next-to-leading Corrections to the BFKL Equation at the 3^{rd} Workshop on *Small-x and Diffractive Physics*, Fermilab, Batavia, IL, USA, 1996.

BFKL: a minireview at *DIS97*, 5^{th} Workshop on *Deep Inelastic Scattering and Related Phenomena*, Chicago, IL, USA.

BFKL in forward jet production at the XII Symposium on *Hadron Collider Physics*, Stony Brook, NY, USA, 1997.

BFKL Small-x Resummation: Leading and Next-to-Leading at the RIKEN BNL Research Center Workshop on *Perturbative QCD as a Probe of Hadron Structure*, Brookhaven, NY, USA, 1997.

QCD Amplitudes in the High-Energy Limit at LISHEP98, Rio, Brasil.

The infrared behavior of QCD cross sections at NNLO at the Corfu Summer Institute on *Elementary Particle Physics: The Standard Model and beyond*, Corfu, Greece, 1998.

QCD Amplitudes in the High-Energy Limit and the BFKL resummation at the Winter Conference on *Non-Perturbative Particle Dynamics*, Aspen, CO, USA, 1999.

NLL BFKL and NNLO at *DIS99*, 7^{th} Workshop on *Deep Inelastic Scattering and Related Phenomena*, Zeuthen, Germany.

NLO and NNLO Calculations at the Workshop on *Physics at TeV Colliders*, Les Houches, France, 1999.

Production Rates at NNLO in QCD at Les Rencontres de Physique de la Vallee d'Aoste, La Thuile, Italy, 2000.

$\gamma^*\gamma^* \to$ *hadrons at LEP2*, at the QCDNET 2000 Workshop, Paris, France.

The high-energy limit of QCD at two loops, at the Workshop on *Physics at TeV Colliders*, Les Houches, France, 2001.

The high-energy limit of $H + 2$ *jet production via gluon fusion*, at the Workshop on *Physics at TeV Colliders*, Les Houches, France, 2001.

Forward jets and forward W*-boson production at hadron colliders*, at the EPS International Conference on High Energy Physics, Budapest, Hungary, 2001.

Higgs production plus two jets at hadron colliders, at the EPS International Conference on High Energy Physics, Budapest, Hungary, 2001.

QCD radiative corrections to $\gamma^*\gamma^* \to hadrons$, at the EPS International Conference on High Energy Physics, Budapest, Hungary, 2001.

Recent progress in jet physics at large rapidities, at the QCDNET 2001 Workshop, Weimar, Germany.

A Technical Note on Mueller Navelet Jets from the Fellows' Garden, at the Workshop on *TeV-Scale Physics*, Cambridge, UK, 2002.

QCD radiative corrections to $\gamma^*\gamma^* \to hadrons$, at the Loopfest II, Brookhaven, NY, USA, 2003.

A few Facts on the High Energy Limit of QCD, at the Workshop on *Physics at TeV Colliders*, Les Houches, France, 2003.

Radiative corrections to di-photon + 1 jet production, at the Workshop on *Physics at TeV Colliders*, Les Houches, France, 2003.

Higgs production at the LHC at QCD@Work, Conversano (Bari), Italy, 2003.

Radiative corrections to di-photon + 1 jet production at the CERN Workshop on *Monte Carlo tools for the LHC*, Geneve, 2003.

Higgs +2 Jets via Gluon Fusion, at LXXXIX Congresso Nazionale della Società Italiana di Fisica, Parma, 2003.

QCD at LHC, at the II Italian Workshop on ATLAS and CMS Physics, Napoli, 2004.

Progress on NNLO subtraction, at the Workshop on *Physics at TeV Colliders*, Les Houches, France, 2005.

Hunting BFKL at Hadron Colliders, at the Workshop on *Physics at TeV Colliders*, Les Houches, France, 2005.

QCD ai colliders, at the Convegno Informale di Fisica Teorica, Cortona, Italy, 2005.

Progress on NNLO subtraction, at *RADCOR05*, 7^{th} International Symposium on Radiative Corrections, Shonan Village (Kanagawa), Japan 2005.

QCD at hadron colliders, at the Workshop *From twistors to gauge amplitudes*, Queen Mary, London, UK 2005.

QCD at hadron colliders, at the Workshop on High Energy Physics, WHEPP9, Bhubaneswar, India 2006.

QCD challenges at the LHC at XLI Rencontres de Moriond, La Thuile, Italy 2006.

Higgs Production at LHC at *NURT06*, Havana, Cuba 2006.

Cross sections at NNLO at *DIS06*, 14^{th} Workshop on *Deep Inelastic Scattering and Related Phenomena*, Tsukuba, Japan 2006.

A Subtraction Scheme for Cross Sections at NNLO at the Workshop on *High Precision for Hard Processes at the LHC* (HP^2), Zürich, Switzerland 2006.

Higgs Production at LHC at the Workshop *Getting ready for the LHC*, Madrid, Spain 2006.

Higgs, the missing link of the Standard Model at the Workshop *Physics for Large and Small Scale*, Nha Trang, Vietnam, 2007.

Higgs production in association with jets at the LHC at the 3^{rd} Hera and LHC Workshop, DESY, Hamburg, Germany, 2007.

Higgs production in association with jets at the LHC at XLII Rencontres de Moriond, La Thuile, Italy 2007.

Teaching Experience

Teaching Assistant in undergraduate courses in the Physics Dept. of the State University of New York at Stony Brook, from 1986 to 1988.

Lectures for Ph.D. students on *L'equazione di BFKL e sue applicazioni alla produzione di jet a grandi intervalli di rapidita'* at the University of Torino, Italy, in 1994.

Lectures for Ph.D. students on *Fisica dei jet*, at the University of Salerno, Italy, in 1994.

Academic Training Course for Ph.D. students, postdoctoral fellows and senior researchers on *An introduction to the perturbative QCD pomeron*, at the Deutsches Elektronen-Synchrotron (DESY), Hamburg, Germany, in 1995.

Lectures for Ph.D. students on *An introduction to the perturbative QCD pomeron*, at the Michigan State University, MI, USA, in 1996.

Lectures for graduate students on *Renormalizzazione*, at the University of Torino, Italy, in 1998.

Lectures for graduate students on *Parton model e DIS*, at the University of Torino, Italy, in 1999.

Lectures for Ph.D. students on *Parton model and QCD*, at the Weizmann Institute, Rehovot, Israel, in 1999.

Lectures for Ph.D. students on *Introduction to the Parton Model and to QCD*, at the University of Torino, Italy, in 2003.

Lecturer at the Dept. of Physics and Astronomy of the University of Edinburgh in :

* undergraduate courses

  Physics 1 (tutorials), in Spring 1996;

  Computational Physics lab 2, form Spring 1996 to Spring 1998;

  Quantum Physics, in Winter 1996 and Winter 1997;

* Ph.D. courses

  A Path to QCD, in Summer 1997;

  Renormalization, in Spring 1998.