

Juan Rojo

Curriculum Vitae, February 22, 2017

✉ J.Rojo@vu.nl
www.juanrojo.com



Personal information

- **Date and place of birth**, Barcelona, Spain, 15/02/1980.
- **Civil status**, Married, two children.
- **Home address**, Kromstraat 43, 2611EP, Delft, The Netherlands.

Academic Formation

- 2006 **Ph. D. in Theoretical Physics**, *Universitat de Barcelona, Spain.*
- 2004 **Diploma d'Estudis Avancats (DEA)**, *Universitat de Barcelona, Spain.*
- 2002 **Degree in Physics**, *Universitat de Barcelona, Spain.*

Professional experience

- from 10/2016 **Assistant Professor**, *Department of Physics and Astronomy, Vrije Universiteit Amsterdam, The Netherlands.*
- from 10/2016 **Staff Member**, *Theory group, Nikhef, The Netherlands.*
- 2014-2016 **Lecturer in Physics**, *Balliol College, University of Oxford, Oxford, UK.*
- 2014-2016 **STFC Ernest Rutherford Fellow**, *Rudolf Peierls for Theoretical Physics, Physics Department, University of Oxford, Oxford, UK.*
- 2013-2014 **Research fellow**, *Theory Unit, Physics Department, CERN, Switzerland.*
- 2011-2013 **Marie Curie research fellow**, *Theory Unit, Physics Department, CERN, Switzerland.*
- 2010-2011 **Postdoctoral research fellow**, *Dipartimento di Fisica, Università degli studi di Milano, Italy.*
- 2008-2010 **Postdoctoral research fellow**, *Sezione di Milano, Istituto Nazionale di Fisica Nucleare, Italy.*
- 2006-2008 **CNRS postdoctoral research fellow**, *LPTHE, Universite Pierre et Marie Curie (Paris VI) and Denis Diderot (Paris VII), Paris, France.*
- 2002-2006 **Graduate student**, *Departament d'Estructura i Constituents de la Matèria, Facultat de Física, Universitat de Barcelona, Spain.*
Supervisors: Prof. Jose Ignacio Latorre (Universitat de Barcelona) and Stefano Forte (Università di Milano)

Research interests

- **QCD and collider physics.**
I have been working in different areas of perturbative QCD with applications to collider phenomenology. These include parton distribution functions, all order resummations of the perturbative expansions, new experimental strategies for precision measurements and precision determinations of Standard Model parameters from experimental data
- **Parton Distribution Functions.**
I am a member of the NNPDF Collaboration for the determination of Parton Distribution Functions and for the study of their implications for LHC phenomenology. The NNPDF sets are now routinely used in the LHC phenomenological and experimental communities, in the comparison of theory with data by the ATLAS, CMS and LHCb collaborations and have been used in the Higgs discovery papers
- **Jet reconstruction and jet substructure.**
I am interested in jet reconstruction in both proton-proton and heavy ion collisions, and their relevance for LHC phenomenology. I am also working in using jet substructure techniques to improve the prospects of New Physics searches at the LHC
- **Automation of perturbative calculations.**
I am also interested in the automation of NLO QCD and electroweak calculations matched to parton showers, in the framework of the MadGraph5_aMC@NLO software, and in the implementation of a fast interface of these calculations for global PDF analyses.

- **Experimental particle physics.**

From January 2012 to September 2014 I was Affiliate Scientist in the CMS Collaboration of the LHC, contributing to the CMS experimental analysis in the Standard Model, QCD, top and Electroweak working groups. I was coordinator of the CMS PDF forum for PDF related studies within CMS. Since October 2014 I am Short Term Affiliate in the ATLAS Collaboration, participating actively in the PDF fit forum studies and in the Monte Carlo physics validation group.

Experience in experimental particle physics

2014-now **Short Term Affiliate, ATLAS Collaboration**, *Particle Physics sub-department, Physics Department, University of Oxford, Oxford, UK.*

2011-2014 **Affiliate Scientist, CMS Collaboration**, *Physics Department, CERN, Switzerland.*

Teaching experience

from 2017 **Quantum Field Theory extension**, *UvA/VU Master in Physics and Astronomy, Theory Track.*
3 ECT. Course syllabus can be found in this link

2017 **From Quantum to Molecules (Van Quantum tot Molecuul)**, *Medical Sciences BSc VU Amsterdam.*
6 ECT Jan-March 2017. Course syllabus can be found in this link

2017 **Subatomic Physics Workshop**, *Joint UvA/VU Amsterdam bachelor degree in Physics and Astronomy.*
4 weeks in January 2017

2015-12/2016 **Lecturer in Physics, Balliol College, Oxford**, *Tutor in Physics at Balliol College: first and second year Electromagnetism, first year Special Relativity and Classical Mechanics, and third year Quantum, Atomic and Molecular Physics.*
Six teaching hours per week during term

2015-2016 **"The Standard Model of Particle Physics"**, *Master in Mathematical Physics (MMathPhys) and Graduate School of the Theoretical Physics group, Physics Department, University of Oxford.*
Trinity Term, 16 lectures, course schedule: <https://mmathphys.physics.ox.ac.uk/>
Lecture notes available from <http://pcteserver.mi.infn.it/~nnpdf/MMathPhys/SMLHC-MMathPhys.pdf>

2014-2015 **Lecturer in Physics, Balliol College, Oxford**, *Tutor in Physics at Balliol College: first and second year Optics, second year Thermal Physics and Statistical Mechanics, and third year Subatomic Physics.*
Six teaching hours per week during term

2014 **"The Strong Interaction and LHC Phenomenology"**, *Graduate course at the Theoretical Physics group of the Physics Department, University of Oxford.*
Trinity Term, 16 lectures, lecture materials available from <http://juanrojo.com/teaching>

2010 **"Lectures on Parton Distribution Functions"**, *Aspects of perturbative quantum chromodynamics, Spring Course of the International Graduate School, Bielefeld - Paris - Helsinki, GRK 881 PACO, "Quantum Fields and Strongly Interacting Matter"*, Paris, March 2010.
Slides of the course, references and extra material can be found in :
<http://wwwteor.mi.infn.it/~rojo/teaching/rojo-PDFs-ParisSchool.pdf>

2009-2011 **"Computational Methods in Physics"**, *Degree course at the Physics Faculty of the Università degli Studi di Milano, Milano, Italy.*
Slides of the course, references and extra material can be found in the course webpage:
<http://wwwteor.mi.infn.it/~rojo/teaching-neuralnet.html>

2004-2006 **"Calculus II"**, *Teaching assistant at the degree course at the Physics Faculty of the Universitat de Barcelona, Barcelona, Spain.*

2005 **"High Energy Physics"**, *Teaching assistant at the degree course at the Physics Faculty of the Universitat de Barcelona, Barcelona, Spain.*

2004 **"Advanced Quantum Mechanics"**, *Teaching assistant at the degree course at the Physics Faculty of the Universitat de Barcelona, Barcelona, Spain.*

Teaching qualifications

2017 **University Teaching Qualification (UTQ) / Basiskwalificatie Onderwijs (BKO)**, *VU Amsterdam.*
Qualification certificate of didactic competence for University professors in the higher-education system of the Netherlands.

Scientific Publications

Citation figures

- **Total number of citations:**, 9057 in total, 6648 corresponding to peer-reviewed publications. The latter include two published papers with more than 500 citations, 4 with more than 250 citations, 12 with more than 100 citations and 21 papers with more than 50 citations.
Data from INSPIRE database, as of February 22, 2017
- **Average number of citations per paper**, 63.8 in total, 86.3 corresponding to published journals.
Data from INSPIRE database, as of February 22, 2017
- **h index:**, $h = 49$ in for all publications, $h = 42$ corresponding to published journals.
Data from INSPIRE database, as of February 22, 2017

Updated citation figures from INSPIRE:, <http://tinyurl.com/JRcitesummary>.

Updated list of publications from INSPIRE:, <http://tinyurl.com/JRcitations>.

List of publications and citations in Google Scholar:, <http://tinyurl.com/JR-gogglescholar>.

Total number of citations: 8775, as of as of February 22, 2017

Publications in Scientific Journals

- 2017 **arXiv:1701.08553**, submitted to **JHEP**, *The photon PDF from high-mass Drell Yan data at the LHC*, F. Giuli, ..., J. Rojo et al.
<http://inspirehep.net/record/1511306?ln=en>
- 2016 **arXiv:1611.08609**, submitted to **JHEP**, *Pinning down the large- x gluon with NNLO top-quark pair differential distributions*, M. Czakon, N. P. Hartland, A. Mitov, E. R. Nocera, J. Rojo.
- 2016 **arXiv:1611.03860**, submitted to **JHEP**, *Higgs pair production in vector-boson fusion at the LHC and beyond*, F. Bishara, R. Contino and J. Rojo.
- 2016 **Phys. Rev. Lett.** **118**, **072001 (2017)**, **arXiv:1610.09373**, *Precision determination of the small- x gluon from charm production at LHCb*, R. Gauld and J. Rojo.
- 2016 **Eur. Phys. J. C** **76 (2016) no.11**, **647**, **arXiv:1605.06515**, *A Determination of the Charm Content of the Proton*, R. D. Ball, V. Bertone, M. Bonvini, S. Carrazza, S. Forte, A. Guffanti, N. P. Hartland, J. Rojo, L. Rottoli .
- 2016 **JHEP** **1608**, **050 (2016)**, **arXiv:1605.01946**, *A determination of $m_c(m_c)$ from HERA data using a matched heavy-flavor scheme*, V. Bertone, ..., J. Rojo et al. .
<http://inspirehep.net/record/1456156/>
- 2016 **Eur. Phys. J. C** **76**, **no. 7**, **383 (2016)**, **arXiv:1604.00024**, *The asymptotic behaviour of parton distributions at small and large x* , Richard D. Ball, Emanuele R. Nocera and Juan Rojo.
- 2016 **Eur. Phys. J. C** **76**, **no. 4**, **205 (2016)**, **arXiv:1602.00005**, *Specialized minimal PDFs for optimized LHC calculations* , Stefano Carrazza, Stefano Forte, Zahari Kassabov and Juan Rojo.
- 2015 **Eur. Phys. J. C** **76**, **no. 7**, **386 (2016)**, **arXiv:1512.08928**, *Boosting Higgs pair production in the $b\bar{b}b\bar{b}$ final state with multivariate techniques*, J. Katharina Behr, Daniela Bortoletto, James A. Frost, Nathan P. Hartland, Cigdem Issever and Juan Rojo.
- 2015 **JHEP** **1602**, **130 (2016)**, **arXiv:1511.06346**, *The prompt atmospheric neutrino flux in the light of LHCb*, Rhorry Gauld, Juan Rojo, Luca Rottoli, Subir Sarkar and Jim Talbert.
- 2015 **J. Phys. G** **43**, **023001 (2016)**, **arXiv:1510.03865**, *PDF4LHC recommendations for LHC Run II* , Jon Butterworth, Stefano Carrazza, Amanda Cooper-Sarkar, Albert De Roeck, Joel Feltesse, Stefano Forte, Jun Gao, Sasha Glazov, Joey Huston, Zahari Kassabov, Ronan McNulty, Andreas Morsch, Pavel Nadolsky, Voica Radescu, Juan Rojo, Robert Thorne.
- 2015 **Eur. Phys. J. C** **76**, **no. 2**, **53 (2016)**, **arXiv:1510.00375**, *NLO+NLL squark and gluino production cross-sections with threshold-improved parton distributions*, Wim Beenakker, Christoph Borschensky, Michael Krämer, Anna Kulesza, Eric Laenen, Simone Marzani, Juan Rojo.
- 2015 **Phys. Lett. B** **754**, **49 (2016)**, **arXiv:1510.00009**, *Intrinsic charm in a matched general-mass scheme*, Richard D. Ball, Valerio Bertone, Marco Bonvini, Stefano Forte, Patrick Groth Merrild, Juan Rojo, Luca Rottoli.
- 2015 **JHEP** **1509**, **191 (2015)**, **arXiv:1507.01006**, *Parton distributions with threshold resummation*, M. Bonvini, S. Marzani, J. Rojo, L. Rottoli, M. Ubiali, R. D. Ball, V. Bertone and S. Carrazza and N. P. Hartland.
- 2015 **J. Phys. G** **42**, **103103 (2015)**, **arXiv:1507.00556**, *The PDF4LHC report on PDFs and LHC data: Results from Run I and preparation for Run II*, J. Rojo, A. Accardi, R. D. Ball, et al..
<http://inspirehep.net/record/1380909?ln=en>
- 2015 **arXiv:1506.08025**, **JHEP in press**, *Charm production in the forward region: constraints on the small- x gluon and backgrounds for neutrino astronomy*, R. Gauld, J. Rojo, L. Rottoli and J. Talbert.

- 2015 **Eur. Phys. J. C** **75**, no. 8, 369 (2015), arXiv:1505.06736, *An Unbiased Hessian Representation for Monte Carlo PDFs*, S. Carrazza, S. Forte, Z. Kassabov, J. I. Latorre and J. Rojo.
- 2015 **Eur. Phys. J. C** **75**, no. 10, 474 (2015), arXiv:1504.06469, submitted to **EPJC**, *A compression algorithm for the combination of PDF sets*, S. Carrazza, J. I. Latorre, J. Rojo and G. Watt.
- 2015 **Eur. Phys. J. C** **75**, no. 9, 409 (2015), arxiv:1504.00679,, *Towards an understanding of jet substructure: Report of BOOST2013*, D. Adams,, J. Rojo et al..
<http://arxiv.org/pdf/1504.00679.pdf>
- 2015 arxiv:1501.01112, **Journal of Physics G** in press, *Summary of the Topical Workshop on Top Quark Differential Distributions 2014*, Michal Czakon, Alexander Mitov and Juan Rojo.
- 2014 **J.Phys. G** **42** (2015) 5 057001, arXiv:1410.5456, *APFEL Web: a web-based application for the graphical visualization of parton distribution functions*, S. Carrazza, A. Ferrara, D. Palazzo and J. Rojo.
<http://apfel.mi.infn.it/home>
- 2014 **JHEP** **1504**, 040 (2015), arXiv:1410.8849, *Parton distributions for the LHC Run II*, R D. Ball, V Bertone, S Carrazza, C. S. Deans, L. Del Debbio, S. Forte, A. Guffanti, N P. Hartland, J I. Latorre, J. Rojo and M. Ubiali.
- 2014 arxiv:1410.7728, to appear in **IJMPA**, *Constraints on parton distributions and the strong coupling from LHC jet data*, J. Rojo.
Review article part of the special issue on "Jet Measurements at the LHC", editor G. Dissertori
- 2014 **JHEP** **1408**, 166 (2014), arXiv:1406.7693, *aMCfast: automation of fast NLO computations for PDF fits*, V. Bertone, R. Frederix, S. Frixione, J. Rojo and M. Sutton.
- 2014 **Nucl. Phys. B** **887**, 276 (2014), arXiv:1406.5539, *A first unbiased global determination of polarized PDFs and their uncertainties*, E. R. Nocera, R. D. Ball, S. Forte, G. Ridolfi, and J. Rojo.
- 2014 **European Physical Journal** **74**, 3024 (2014), arxiv:1404.5630, *Tuning PYTHIA 8.1: the Monash 2013 Tune*, P. Skands, S. Carrazza and J Rojo.
- 2014 **JHEP** **1405**, 045 (2014), arXiv:1403.2383, *Characterizing New Physics with Polarized Beams at High-Energy Hadron Colliders*, B. Fuks, J. Proudom, J. Rojo and I. Schienbein.
- 2013 **Comp. Phys;Comm** **185** (2014) 1647, arXiv:1310.1394, *APFEL: A PDF Evolution Library with QED corrections*, V. Bertone, S. Carrazza and J. Rojo.
- 2013 **Phys. Lett. B** **728**, 524 (2014), arXiv:1310.0461, *Polarized Parton Distributions at an Electron-Ion Collider*, R. D. Ball, S. Forte, A. Guffanti, E. R. Nocera, G. Ridolfi, J. Rojo.
- 2013 **JHEP** **1311** (2013) 015, arXiv:1309.5371, *Bayesian reweighting of nuclear PDFs and constraints from proton-lead collisions at the LHC*, N. Armesto, J. Rojo, C. A. Salgado and P. Zurita.
- 2013 **JHEP** **01** (2014) 164, arXiv:1308.6176, *First look at the physics case of TLEP*, M. Bicer, ... J. Rojo, et al..
<http://arxiv.org/abs/arXiv:1308.6176>
- 2013 **Nucl. Phys. B** **877**, 290 (2013), arXiv:1308.0598, *Parton distributions with QED corrections*, R. D. Ball, V. Bertone, S. Carrazza, L. del Debbio, S. Forte, Nathan P. Hartland, A. Guffanti and J. Rojo [The NNPDF Collaboration].
- 2013 **Nucl. Phys. B** **874**, 36 (2013), arXiv:1303.7236, *Unbiased determination of polarized parton distributions and their uncertainties*, R. D. Ball, S. Forte, A. Guffanti, E. R. Nocera, G. Ridolfi and J. Rojo [The NNPDF Collaboration].
- 2013 **JHEP** **1307**, 167 (2013), arXiv:1303.7215, *Constraints on the gluon PDF from top quark pair production at hadron colliders*, M. Czakon, M. L. Mangano, A. Mitov and J. Rojo.
- 2013 **JHEP** **1307**, 148 (2013), arXiv:1303.6636, *Scale-invariant resonance tagging in multijet events and new physics in Higgs pair production*, M. Gouzevitch, A. Oliveira, J. Rojo, R. Rosenfeld, G. Salam and V. Sanz.
- 2013 **Physics Letters B**, **723** (2013) 330, arXiv:1303.1189, *Theoretical issues in PDF determination and associated uncertainties*, R. D. Ball, V. Bertone, L. Del Debbio, S. Forte, A. Guffanti, J. Rojo and M. Ubiali [The NNPDF Collaboration].
- 2012 **EPL** **101** (2013) 61002, arXiv:1212.5511, *Sensitivity of the LHC isolated-gamma+jet data to the parton distribution functions of the proton*, L. Carminati, C. Costa, D. d'Enterria, I. Koletsou, G. Marchiori, J. Rojo, M. Stockton and F. Tartarelli.
- 2012 **JHEP** **1304** (2013) 125, arXiv:1211.5142, *Parton Distribution Benchmarking with LHC data*, R. D. Ball, S. Carrazza, L. Del Debbio, S. Forte, J. Gao, N. Hartland, J. Huston and P. Nadolsky, J. Rojo, D. Stump, R. Thorne and C. P. Yuan.
- 2012 **Nucl.Phys.B** **867** (2013) 244, arXiv:1207.1303, *Parton Distributions with LHC data*, R. D. Ball, V. Bertone, S. Carrazza, C. Deans, L. Del Debbio, S. Forte, A. Guffanti, J. I. Latorre, J. Rojo and M. Ubiali [The NNPDF Collaboration].

- 2012 **JHEP 1208 (2012) 010**, [arXiv:1206.3357](#), *Cross Section Ratios between different CM energies at the LHC: opportunities for precision measurements and BSM sensitivity*, M. L. Mangano and J. Rojo.
- 2012 **J.Phys.G. 39 (2012) 075001**, [arXiv:1206.2913](#), *A Large Hadron Electron Collider at CERN: Report on the Physics and Design Concepts for Machine and Detector*, J. L. Abelleira Fernandez, ..., J. Rojo et al. [LHeC Study Group].
<http://inspirehep.net/record/1118165?ln=en>
- 2012 **Eur. Phys. Jour. C 72 (2012) 2131**, [arXiv:1203.1043](#), *Linear vs non-linear QCD evolution: from HERA data to LHC phenomenology*, J. L. Albacete, J. G. Milhano, J. Rojo and P. Quiroga-Arias.
- 2012 **Nucl. Phys. B860 (2012) 311**, [arXiv:1202.1762](#), *Quantitative constraints on the gluon distribution function in the proton from collider isolated-photon data*, D. D'Enterria and J. Rojo.
- 2011 **Phys. Lett. B 707 (2012) 66**, [arXiv:1110.2483](#), *Precision NNLO determination of $\alpha_s(M_Z)$ using an unbiased global parton set*, R. D. Ball, V. Bertone, L. Del Debbio, S. Forte, A. Guffanti, J. I. Latorre, S. Lionetti, J. Rojo and M. Ubiali [The NNPDF Collaboration].
- 2011 **Nucl. Phys. B 855, 608 (2012)**, [arXiv:1108.1758](#), *Reweighting and Unweighting of Parton Distributions and the LHC W lepton asymmetry data*, R. D. Ball, V. Bertone, F. Cerutti, L. Del Debbio, S. Forte, A. Guffanti, J. I. Latorre, J. Rojo and M. Ubiali [The NNPDF Collaboration].
- 2011 **Nucl. Phys. B 855, 153 (2012)**, [arXiv:1107.2652](#), *Unbiased global determination of parton distributions and their uncertainties at NNLO and at LO*, R. D. Ball, V. Bertone, F. Cerutti, L. Del Debbio, S. Forte, A. Guffanti, J. I. Latorre, J. Rojo and M. Ubiali [The NNPDF Collaboration].
- 2011 **Phys. Rev. D 83, 113008 (2011)**, [arXiv:1104.2056](#), *The Impact of PDF uncertainties on the measurement of the W boson mass at the Tevatron and the LHC*, G. Bozzi, J. Rojo and A. Vicini.
- 2011 **Phys.Lett.B701:346-352,2011**, [arXiv:1103.2369](#), *Precision determination of $\alpha_s(M_Z)$ using an unbiased global NLO parton set*, S. Lionetti, R. D. Ball, V. Bertone, F. Cerutti, L. Del Debbio, S. Forte, A. Guffanti, J. I. Latorre, J. Rojo and M. Ubiali [The NNPDF Collaboration].
- 2011 **Phys. Lett. B 704, 36 (2011)**, [arXiv:1102.3182](#), *On the Impact of NMC Data on NLO and NNLO Parton Distributions and Higgs Production at the Tevatron and the LHC*, R. D. Ball, V. Bertone, F. Cerutti, L. Del Debbio, S. Forte, A. Guffanti, J. I. Latorre, J. Rojo and M. Ubiali [The NNPDF Collaboration].
- 2011 **Nucl.Phys.B849:296-363,2011**, [arXiv:1101:1300](#), *Impact of Heavy Quark Masses on Parton Distributions and LHC Phenomenology*, R. D. Ball, V. Bertone, F. Cerutti, L. Del Debbio, S. Forte, A. Guffanti, J. I. Latorre, J. Rojo and M. Ubiali [The NNPDF Collaboration].
- 2010 **Nucl.Phys.B849:112-143,2011**, [arXiv:1012:0836](#), *Reweighting NNPDFs: the W lepton asymmetry*, R. D. Ball, V. Bertone, F. Cerutti, L. Del Debbio, S. Forte, A. Guffanti, J. I. Latorre, J. Rojo and M. Ubiali [The NNPDF Collaboration].
- 2010 **Eur. Phys. Jour. C 71 (2011) 1-21**, [arXiv:1010.1759](#), *Jet Reconstruction in Heavy Ion Collisions at RHIC and the LHC*, M. Cacciari, J. Rojo, G. Salam and G. Soyez.
- 2010 **Nucl. Phys.A854:32-44,2011**, [arXiv:1007.5405](#), *HERA results and DGLAP evolution: Theory and Phenomenology*, F. Caola, S. Forte, and J. Rojo.
- 2010 **Phys.Lett.B693:430-437,2010**, [arXiv:1006.4250](#), *High energy resummation of direct photon production at hadronic colliders*, G. Diana, J. Rojo and R. D. Ball.
- 2010 **Phys.Rev.D82:014002,2010**, [arxiv:1004.0962](#), *The impact of PDF and alphas uncertainties on Higgs Production in gluon fusion at hadron colliders*, F. Demartin, S. Forte, E. Mariani, J. Rojo and A. Vicini.
- 2010 **Nucl.Phys.B838:136-206,2010**, [arXiv:1002:4407](#), *A first unbiased global NLO determination of parton distributions and their uncertainties*, R. D. Ball, L. Del Debbio, S. Forte, A. Guffanti, J. I. Latorre, J. Rojo and M. Ubiali [NNPDF Collaboration].
- 2010 **Nucl. Phys. B 834 (2010) 116**, [arXiv:1001.2312](#), *Heavy quarks in deep-inelastic scattering*, S. Forte, E. Laenen, P. Nason, J. Rojo.
- 2009 **JHEP 1005 (2010) 075**, [arXiv:0912.2276](#), *Fitting Parton Distribution Data with Multiplicative Normalization Uncertainties*, R. D. Ball, L. Del Debbio, S. Forte, A. Guffanti, J. I. Latorre, J. Rojo and M. Ubiali [NNPDF Collaboration].
- 2009 **Phys. Lett. B 686 (2010) 127**, [arXiv:0910.3143](#), *Deviations from NLO QCD evolution in inclusive HERA data*, F. Caola, S. Forte, and J. Rojo.
- 2009 **Nucl.Phys.B823:195-233,2009**, [arXiv:0906.1958](#), *Precision determination of electroweak parameters and the strange content of the proton from neutrino deep-inelastic scattering*, R. D. Ball, L. Del Debbio, S. Forte, A. Guffanti, J. I. Latorre, A. Piccione, J. Rojo and M. Ubiali [NNPDF Collaboration].
- 2008 **JHEP 0812 (2008) 032**, *Quantifying the performance of jet definitions for kinematic reconstruction at the LHC*, M. Cacciari, J. Rojo, G. Salam and G. Soyez.

- 2008 **Nucl. Phys. B** **809** (2009) **1**, [arXiv:0808.1231](#), *A determination of parton distributions with faithful uncertainty estimation*, R. D. Ball, L. Del Debbio, S. Forte, A. Guffanti, J. I. Latorre, A. Piccione, J. Rojo and M. Ubiali [NNPDF Collaboration].
- 2008 **Comp. Phys. Comm.** **180** (2009) **120**, [arXiv:0804.3755](#), *A Higher Order Perturbative Parton Evolution Toolkit (HOPPET)*, G. P. Salam and J. Rojo.
- 2007 **JHEP** **03** (2007) **039**, [hep-ph/0701127](#), *Neural network determination of parton distributions: the nonsinglet case*, L. Del Debbio, S. Forte, J. I. Latorre, A. Piccione and J. Rojo [NNPDF Collaboration].
- 2006 **JHEP** **10** (2006) **075**, [hep-ph/0607324](#), *Determination of the Atmospheric Neutrino Fluxes from Atmospheric Neutrino Data*, M. C. Gonzalez-Garcia, M. Maltoni and J. Rojo.
- 2006 **JHEP** **09** (2006) **060**, [hep-ph/0605248](#), *Heavy meson semileptonic differential decay rate in two dimensions in the large N_c* , J. Mondejar, A. Pineda and J. Rojo.
- 2006 **JHEP** **05** (2006) **040**, [hep-ph/0601229](#), *Neural network parametrization of the lepton energy spectrum in B meson decays*, J. Rojo.
- 2006 **Phys. Lett. B** **635**, **313** (2006), [hep-ph/0601048](#), *Borel resummation of soft gluon radiation and higher twists*, S. Forte, G. Ridolfi, J. Rojo and M. Ubiali.
- 2005 **JHEP** **0503** (2005) **080**, [hep-ph/0501067](#), *Unbiased determination of the proton structure function F_2^p with faithful uncertainty estimation*, L. Del Debbio, S. Forte, J. I. Latorre, A. Piccione, J. Rojo [The NNPDF Collaboration].
- 2004 **Nucl. Phys. B** **710**, **117** (2005), [hep-th/0408174](#), *Non-perturbative states in type II superstring theory from classical spinning membranes*, J. Bruges, J. Rojo and J. Russo.
- 2004 **JHEP** **0401**, **055** (2004), [hep-ph/0401047](#), *Neural network parametrization of spectral functions from hadronic tau decays and determination of QCD vacuum condensates*, J. Rojo and J. I. Latorre.

[Publications in Scientific Journals - Experimental HEP](#)

- 2016 **JHEP** **1608**, **009** (2016), [arXiv:1606.01736](#), *Measurement of the double-differential high-mass Drell-Yan cross section in pp collisions at $\sqrt{s} = 8$ TeV with the ATLAS detector*, G. Aad, ..., J. Rojo et al. [The ATLAS Collaboration].
<http://inspirehep.net/record/1467454?ln=en>
- 2014 **Eur. Phys. J. C** **75**, no. 4, **147** (2015), [arXiv:1412.1115](#), *Measurements of differential and double-differential Drell-Yan cross sections in proton-proton collisions at 8 TeV*, S. Chatrchyan, ..., J. Rojo et al. [The CMS Collaboration].
<http://inspirehep.net/record/1332509?ln=en>
- 2013 **Phys. Rev. D** **90**, **032004** (2014), [arXiv:1312.6283](#), *Measurement of the muon charge asymmetry in inclusive $pp \rightarrow W + X$ production at $\sqrt{s} = 7$ TeV and an improved determination of light parton distribution functions*, S. Chatrchyan, ..., J. Rojo et al. [The CMS Collaboration].
<http://inspirehep.net/record/1273570?ln=en>
- 2013 **JHEP** **1312** (2013) **030**, [arXiv:1310.7291](#), *Measurement of the differential and double-differential Drell-Yan cross sections in proton-proton collisions at 7 TeV*, S. Chatrchyan, ..., J. Rojo et al. [The CMS Collaboration].
<http://inspirehep.net/record/1262319?ln=en>
- 2013 **JHEP** **1402**, **013** (2014), [arXiv:1310.1138](#), *Measurement of associated $W +$ charm production in pp collisions at $\sqrt{s} = 7$ TeV*, S. Chatrchyan, ..., J. Rojo et al. [The CMS Collaboration].
<http://inspirehep.net/record/1256938?ln=en>
- 2013 **Phys. Lett. B** **728**, **496** (2014), [arXiv:1307.1907](#), *Determination of the top-quark pole mass and strong coupling constant from the $t\bar{t}$ production cross section in pp collisions at $\sqrt{s} = 7$ TeV*, S. Chatrchyan, ..., J. Rojo et al. [The CMS Collaboration].
<http://inspirehep.net/record/1241819?ln=en>
- 2013 **Eur. Phys. J. C** **73**, **2604** (2013), [arXiv:1304.7498](#), *Measurement of the ratio of the inclusive 3-jet cross section to the inclusive 2-jet cross section in pp collisions at 7 TeV and first determination of the strong coupling constant in the TeV range*, S. Chatrchyan, ..., J. Rojo et al. [The CMS Collaboration].
<http://inspirehep.net/record/1230937?ln=en>
- 2012 **Phys. Rev. D** **87** (2013) **112002**, [arXiv:1212.6660](#), *Measurements of differential jet cross sections in proton-proton collisions at $\sqrt{s} = 7$ TeV with the CMS detector*, S. Chatrchyan, ..., J. Rojo et al. [The CMS Collaboration].
<http://inspirehep.net/record/1208923?ln=en>

[Journal Covers](#)

- 2012 **Cover of European Journal of Physics C** **72,9**, *Linear vs non-linear QCD evolution: from HERA data to LHC phenomenology*, J. L. Albacete, J. G. Milhano, J. Rojo and P. Quiroga-Arias.

Scientific Reports

- 2017 **Parton Radiation and Fragmentation from LHC to FCC-ee**, arXiv:1702.01329 , D. Anderle, ..., J. Rojo et al.
<http://inspirehep.net/record/1512294?ln=en>
- 2016 **Handbook of LHC Higgs Cross Sections: 4. Deciphering the Nature of the Higgs Sector**, arXiv:1610.07922, D. de Florian, ..., J. Rojo et al. [The LHC Higgs Cross Section Working Group Collaboration.
CERN Yellow Report, <http://inspirehep.net/record/1494411?ln=en>
- 2016 **Physics at a 100 TeV pp collider: Standard Model processes**, arXiv:1607.01831, M. L. Mangano, ..., J. Rojo et al.
Chapter in the CERN Yellow Report of the Physics Potential of a 100 TeV Hadron Collider
- 2016 **Physics at a 100 TeV pp collider: Higgs and EW symmetry breaking studies**, arXiv:1606.09408, R. Contino, ..., J. Rojo et al.
Chapter in the CERN Yellow Report of the Physics Potential of a 100 TeV Hadron Collider
- 2016 **Les Houches 2015: Physics at TeV Colliders Standard Model Working Group Report**, arXiv:1605.04692, S. Badger, ..., J. Rojo et al.
Proceedings of the Les Houches Workshop on Physics at TeV Colliders 2015, <https://inspirehep.net/record/1459079?ln=en>
- 2016 **Heavy ions at the Future Circular Collider**, arXiv:1605.01389, A. Dainese, ... , J. Rojo et al.
Chapter in the CERN Yellow Report of the Physics Potential of a 100 TeV Hadron Collider, <http://inspirehep.net/record/1455787?ln=en>
- 2014 **Les Houches 2013: Physics at TeV Colliders: New Physics Working Group Report**, arXiv:1405.1617, G. Brooijmans, ... , J. Rojo et al.
Proceedings of the Standard Model Working Group of the 2013 Les Houches Workshop, Physics at TeV Colliders, Les Houches 3-21 June 2013, <http://inspirehep.net/record/1294778?ln=en>
- 2014 **Les Houches 2013: Physics at TeV Colliders: Standard Model Working Group Report**, arXiv:1405.1067, J. Butterworth, ... , J. Rojo et al.
Proceedings of the Standard Model Working Group of the 2013 Les Houches Workshop, Physics at TeV Colliders, Les Houches 3-21 June 2013, <http://inspirehep.net/record/1294674?ln=en>
- 2013 **ECFA High Luminosity LHC Experiments Workshop: Physics and Technology Challenges**, ECFA 13/284, D. Abbaneo, ... , J. Rojo et al.
ECFA Report on the Physics Goals and Performance Reach of the High-Luminosity LHC, available on CERN Document Server <https://cds.cern.ch/record/1631032?ln=en>
- 2013 **Study of Electroweak interactions at the Energy Frontier**, arXiv:1310.6708, M. Baak, ... J. Rojo et al. .
Contribution to the Community Summer Studies (Snowmass) 2013, <http://inspirehep.net/record/1261993?ln=en>
- 2013 **Report of the Snowmass 2013 energy frontier QCD working group**, arXiv:1310.5189, J. M. Campbell, ... J. Rojo et al. .
Contribution to the Community Summer Studies (Snowmass) 2013, <http://inspirehep.net/record/1261432?ln=en>
- 2012 **On the relation of the LHeC and the LHC**, arXiv:1211.5102, C. Adolphson, ... , J. Rojo et al. (LHeC Study Group).
Submitted to the Cracow Symposium of the Update of the European Strategy for Particle Physics, Cracow (Poland) September 2012, Available as an LHeC note CERN-LHeC-Note-2011-005 GEN, <http://inspirehep.net/record/1203459?ln=en>
- 2012 **A Large Hadron Electron Collider at CERN**, arXiv:1211.4831, C. Adolphson, ... , J. Rojo et al. (LHeC Study Group).
Submitted to the Cracow Symposium of the Update of the European Strategy for Particle Physics, Cracow (Poland) September 2012, Available as an LHeC note CERN-LHeC-Note-2011-004 GEN, <http://inspirehep.net/record/1203309?ln=en>
- 2012 **The SM and NLO Multileg and SM MC Working Groups: Summary Report (arXiv:1203.6803)**, J. Alcaraz, ..., J. Rojo et al.
Report of the SM and NLO Multileg and SM MC Working Groups for the Workshop “Physics at TeV Colliders”, Les Houches, France, 31 May–8 June, 2011, <http://inspirehep.net/record/1095506?ln=en>
- 2012 **Physics and Detectors at CLIC**, *CLIC Conceptual Design Report*, L. Lindssen, ..., J. Rojo et al..
Available on-line at <https://edms.cern.ch/document/1180032/>
- 2012 **Handbook of LHC Higgs Cross Sections: 2. Differential Distributions**, *LHC Higgs Cross Section Working Group Collaboration*, S. Dittmaier, ..., J. Rojo et al..
To appear as a CERN Yellow Report, <http://inspirehep.net/record/1084695?ln=en>

- 2011 **Gluons and the quark sea at high energies: distributions, polarization, tomography (arXiv:1108.1713)**, *Report for the joint BNL/INT/Jlab program on the science case for an Electron-Ion Collider*, D. Boer, ..., J. Rojo et al.
<http://inspirehep.net/record/922440?ln=en>
- 2011 **A Large Hadron Electron Collider at CERN, Physics, Machine, Detector (arXiv:1206.2913)**, *Conceptual Design Report for a LHeC at CERN*, C. Adolphson, ... , J. Rojo et al. (LHeC Study Group). Available as an LHeC note CERN-LHeC-Note-2011-003 GEN at <http://cdsweb.cern.ch/record/1373421>, see also <http://inspirehep.net/record/1118165?ln=en>
- 2011 **PDF4LHC Working Group Report (arXiv:1101.0536)**, *The PDF4LHC Working Group Interim Report*, S. Alekhin, ..., J. Rojo et al.
<http://inspirehep.net/record/883198?ln=en>
- 2010 **Les Houches SM and NLO Multileg WG (arXiv:1003.1241)**, *The Les Houches benchmarks for GM-VFN heavy quark schemes in deep-inelastic scattering*, J. Andersen, ..., J. Rojo et al.
 Published in The Standard Model and NLO Multileg Working Group: Summary Report, Les Houches 2009 Workshop proceedings, <http://inspirehep.net/record/847899?ln=en>
- 2006 **HERA and the LHC workshop (hep-ph/0511119, hep-ph/0601012)**, *Parton distributions: Summary report for the HERA - LHC workshop*, S. Alekhin, ..., J. Rojo et al., HERA and the LHC - A workshop on the implications of HERA for LHC physics: Proceedings Part A.
<http://inspirehep.net/record/816030?ln=en>

Ph. D. Thesis

- 2006 **Ph. D. Thesis**, *The Neural Network Approach To Parton Distribution Function*, J. Rojo.
 Awarded with Excellent Cum Laude, Universitat de Barcelona, 07/07/2006, available from arXiv:hep-ph/0607122

Conference proceedings

- 2016 **arXiv:1606.08243**, *PDF4LHC recommendations for Run II*, Juan Rojo.
 Proceedings of the XXIV International Workshop on Deep-Inelastic Scattering and Related Subjects, 11-15 April, 2016, DESY Hamburg, Germany
- 2016 **arXiv:1605.08302**, *Parton Distributions at a 100 TeV Hadron Collider*, Juan Rojo.
 Proceedings of the XXIV International Workshop on Deep-Inelastic Scattering and Related Subjects, 11-15 April, 2016, DESY Hamburg, Germany
- 2016 **arXiv:1605.08190**, *Weak boson production from D0 and LHCb in the NNPDF global analysis*, Juan Rojo.
 Proceedings of the XXIV International Workshop on Deep-Inelastic Scattering and Related Subjects, 11-15 April, 2016, DESY Hamburg, Germany
- 2015 **arXiv:1508.07731**, *Progress in the NNPDF global analysis and the impact of the legacy HERA combination*, Juan Rojo.
 Proceedings of the European Physical Society Conference on High Energy Physics 2015 (EPS-HEP 2015), Vienna, Austria, 22nd to 29th of July 2015
- 2015 **arXiv:1509.04022**, *Doped Parton Distributions*, V. Bertone, S. Carrazza and J. Rojo.
 Proceedings of the 27th Rencontres de Blois on Particle Physics and Cosmology, Blois, May 31 to June 05, 2015
- 2014 **arXiv:1409.3029**, *Parton distributions based on a maximally consistent dataset*, Juan Rojo.
 Proceedings of the 37th International Conference of High-Energy Physics (ICHEP2014), 2-9 July 2014, Valencia, Spain
- 2014 **arXiv:1404.7071**, *Recent progress in QCD at the LHC*, Juan Rojo.
 To appear in the proceedings of the "Rencontres de physique de la Vallee d'Aoste 2014" Conference, La Thuile, Italy, February 2014
- 2013 **arXiv:1311.5887**, *Parton Distributions and Event Generators*, Stefano Carrazza, Stefano Forte and Juan Rojo.
 To be published in the proceedings of the International Symposium of Multiparticle Dynamics 2013
- 2013 **arXiv:1309.1311**, *PDF uncertainties in the extraction of the W mass at LHC: a Snowmass Whitepaper*, Juan Rojo and Alessandro Vicini.
 Contribution to the Snowmass 2013 Community Planning Study, to appear in the report of the Energy Frontier Electroweak working group
- 2013 **arXiv:1306.2619**, *Scale-Invariant Resonance Tagging in Multijet Final States*, Juan Rojo.
 Proceedings of the XXI International Workshop on Deep-Inelastic Scattering and Related Subjects (DIS2013), Marseille, 22-26 April 2013
- 2013 **arXiv:1305.4833**, *PDF uncertainties in the determination of the W boson mass and of the effective lepton mixing angle at the LHC*, Juan Rojo.
 Proceedings of the XXI International Workshop on Deep-Inelastic Scattering and Related Subjects (DIS2013), Marseille, 22-26 April 2013

- 2013 **arXiv:1305.3892**, *Further exploration of top pair hadroproduction at NNLO*, Michal Czakon, Paul Fiedler, Alexander Mitov, Juan Rojo.
Contribution to the proceedings of the twenty-seventh workshop "Les Rencontres de Physique de la Vallée d'Aoste", held 24 Feb.-02 Mar. 2013 in La Thuile, Aosta Valley, Italy
- 2013 **arXiv:1305.3476**, *Parton Distributions in the Higgs Boson Era*, Juan Rojo.
Write-up of the plenary talk at the XXI International Workshop on Deep-Inelastic Scattering and Related Subjects (DIS2013), Marseille, 22-26 April 2013
- 2012 **arXiv:1212.0741**, *Parton Distributions with the Combined HERA Charm Production Cross Sections*, V. Bertone and J. Rojo.
Contribution to the proceedings of the DIFFRACTION 2012 Workshop, Sep 10-15, Puerto del Carmen, Spain
- 2012 **arXiv:1208.6246**, *Delineating the saturation boundary: linear vs non-linear QCD evolution from HERA data to LHC phenomenology*, P. Quiroga-Arias, J. L. Albacete, J. G. Milhano, J. Rojo.
To be published in the proceedings of the Hard Probes 2012 Conference, Sardinia, Italy, May 2012.
- 2012 **arXiv:1206.0201**, *Unbiased Polarised Parton Distributions and their Uncertainties*, E. R. Nocera, S. Forte, G. Ridolfi and J. Rojo.
To be published in the proceedings of the XX International Workshop on Deep Inelastic Scattering and Related Subjects (DIS 2012), Bonn, Germany, March 2012.
- 2012 **arXiv:1203.5633**, *Physics potential of precision measurements of the LHC luminosity*, J. Rojo.
To be published in the proceedings LHC Lumi Days 2012 Workshop.
- 2011 **arXiv:1110.1863**, *Parton distributions: determining probabilities in a space of functions*, R. D. Ball, V. Bertone, , L. Del Debbio, S. Forte, A. Guffanti, J. I. Latorre J. Rojo and M. Ubiali [The NNPDF Collaboration].
To be published in the proceedings of the PHYSTAT 2011 conference, to appear as a CERN Yellow Report.
- 2011 **arXiv:1106.3839**, *Nuclear parton distributions and deviations from DGLAP at an Electron Ion Collider*, A. Accardi, V. Guzey and J. Rojo.
To appear in the proceedings of XIX International Workshop on Deep Inelastic Scattering and Related Subjects (DIS 2011), Newport News, VA USA, April 11-15, 2011
- 2011 **arXiv:1106.1997**, *Parton Distributions and LHC Data*, J. Rojo.
To appear in the Proceedings of the Rencontres the Physique de la Valle d'Aoste, La Thuile, March 2011
- 2010 **arXiv:1008.4671**, *Top production at the LHC: the impact of PDF uncertainties and correlations*, A. Guffanti and J. Rojo.
To appear in the Proceedings of the International Workshop on Top Quark Physics (Top2010), Bruges, 2010
- 2010 **arXiv:1007.0354**, *The impact of heavy quark mass effects in the NNPDF global analysis*, J. Rojo.
Proceedings of the DIS 2010 workshop
- 2010 **arXiv:1005.0397**, M. Ubiali,, Juan Rojo.
Proceedings of the Rencontres de Moriond, QCD and High Energy Interactions, La Thuile, March 2010.
- 2009 **arXiv:0910.1149**, *Jet reconstruction and Heavy Ion Collisions*, J. Rojo.
Proceedings of the EDS 2009 symposium, CERN, July 2009
- 2009 **arXiv:0907.4614**, *The NNPDF1.2 parton set: implications for the LHC*, A. Guffanti, J. Rojo and M. Ubiali.
Proceedings of the DIS2009 workshop, Madrid, April 2009
- 2009 **arXiv:0907.0443**, *Towards small-x resummed DIS phenomenology*, J. Rojo, G. Altarelli, R. D. Ball and S. Forte.
Proceedings of the DIS2009 workshop, Madrid, April 2009
- 2009 **arXiv:0906.2079**, *Parton distributions and small-x QCD at the Large Hadron Electron Collider*, J. Rojo and F. Caola.
Proceedings of the DIS2009 workshop, Madrid, April 2009.
- 2009 **arXiv:0903.3861**, *Quality measures for jet finding at the LHC*, J. Rojo.
Published in the Proceedings of the second workshop: HERA and the LHC workshop: implications of HERA for LHC physics
- 2008 **arXiv:0811.3484**, *Review on recent developements in jet algorithms*, J. Rojo.
proceedings for the invited review talk at the International Symposium on Multiparticle Dynamics 08, DESY september 2008
- 2008 **arXiv:0807.0198**, *The HOPPET NNLO parton evolution package*, G. Salam and J. Rojo.
Proceedings of the DIS2008 workshop, UCL, April 2008
- 2008 **arXiv:0806.3958**, *Quantifying the performance of jet algorithms at LHC*, J. Rojo.
Proceedings of the DIS2008 workshop, UCL, April 2008

- 2008 **arXiv:0803.0678**, *Quantifying the performance of jet algorithms at the LHC*, M. Cacciari, J. Rojo, G. Salam and G. Soyez.
Published in “Standard Model Handles and Candles Working Group: Tools and Jets Summary Report”, Proceedings of the Les Houches Physics at TeV Colliders workshop 2007
- 2006 **J. Phys. A. 40 7093 (2007)**, *Extraction of the atmospheric neutrino fluxes from experimental event rate data*, M. C. Gonzalez-Garcia, M. Maltoni and J. Rojo.
Proceedings of the 2nd International Conference on Quantum Theories and Renormalization Group in Gravity and Cosmology, Barcelona July 2006
- 2006 **Astrophys. Space Sci. 309,447 (2007)**, *Determination of the atmospheric neutrino fluxes from experimental data*, M. C. Gonzalez-Garcia, M. Maltoni and J. Rojo.
proceedings of the Multi Messenger Approach to High-Energy Gamma Rays, Barcelona July 2006
- 2006 **hep-ph/0607199**, *Neural network determination of the non-singlet quark distribution*, A. Piccione and J. Rojo.
Proceedings of the DIS 2006 workshop
- 2005 **Nucl. Instrum. Meth. A 559, 203 (2006)**, **hep-ph/0509067**, *The neural network approach to parton fitting*, J. Rojo, L. Del Debbio, S. Forte, J. I. Latorre and A. Piccione [NNPDF Collaboration].
proceedings of the ACAT05 workshop
- 2005 **AIP Conf. Proc. 792, 376 (2005)**, **hep-ph/0505044**, *The neural network approach to parton fitting*, J. Rojo, L. Del Debbio, S. Forte, J. I. Latorre and A. Piccione [NNPDF Collaboration].
Proceedings of the DIS 2005 workshop
- 2004 **Nucl. Phys. Proc. Suppl. 152, 57 (2006)**, **hep-ph/0407147**, *A probability measure in the space of spectral functions and structure functions*, J. Rojo.
Proceedings of the QCD 2004 Conference

Software Development

- 2016-now **SMPDF online Graphical User Interface**, S. Carrazza, Z. Kassabov and J. Rojo.
Online Graphical User Interface for the SM-PDF library.
<http://smpdf.mi.infn.it/>
- 2014-now **APFEL online Graphical User Interface**, V. Bertone, S. Carrazza and J. Rojo.
Online Graphical User Interface for the APFEL library
APFEL Web allows to perform a wide variety of comparisons for PDFs, parton luminosities and DIS structure functions with many different PDF sets.
<http://apfel.mi.infn.it/home>
- 2012-now **aMCfast**, V. Bertone, R. Frederix, S. Frixione, J. Rojo and M. Sutton.
aMCfast provides the automation of fast interfaces for fixed order NLO and NLO matched to parton shower computations for PDF fits
<http://amcfast.hepforge.org/>
achieved thanks to the MadGraph5_aMC@NLO framework
<http://amcatnlo.web.cern.ch/amcatnlo/>
interfaced with the APPLgrid code <http://applgrid.hepforge.org/>.
aMCfast allows to include arbitrarily complex NLO and NLO+PS observables in global PDF analysis.
- 2013-now **EPS09MC**, N. Armesto, J. Rojo, C. Salgado and P. Zurita.
Monte Carlo versions of the EPS09 nuclear parton distribution set
Can be used to quantify constraints of new data on nuclear PDFs
<http://igfae.usc.es/hotlhc/index.php/software?id=31>
- 2013-now **APFEL**, V. Bertone, S. Carrazza and J. Rojo.
A Partonic Function Evolution Library
<http://projects.hepforge.org/apfel/>
- 2008-now **NNPDF parton distributions**, The NNPDF Collaboration.
Public releases of the NNPDF PDF sets are available from the HepForge NNPDF webpage
<https://nnpdf.hepforge.org/>
As well as from the LHAPDF library interface,
<http://projects.hepforge.org/lhapdf/>
- 2010-now **FONLLdis**, S. Forte, P. Nason and J. Rojo.
Implementation of the FONLL General-Mass heavy quark scheme for deep-inelastic structure functions
<http://wwwteor.mi.infn.it/~rojo/fonlldis.html>
- 2008 **JetQuality**, M. Cacciari, J. Rojo, G. Salam and G. Soyez.
Interactive tool to assess the performance of jet definitions for kinematic reconstructions at the Large Hadron Collider
<http://quality.fastjet.fr/>
- 2008-2010 **HOPPET**, G. Salam and J. Rojo.
A Higher Order Perturbative Parton Evolution Toolkit
<http://projects.hepforge.org/hoppet/>

Present and future HEP facilities planning

- 2014-now **High-Luminosity LHC Physics Working Group**, *Author of the ECFA Report on the Physics Goals and Performance Reach of the HL-LHC.*
https://cds.cern.ch/record/1631032/files/pecfa-13-284_ReportHighLuminosityNov13.pdf
- 2014-now **Future Circular Colliders Working Group**, *Sub-convenor of the PDF group, within Standard Model working group.*
- 2014-now **Member of the TLEP/FCC-ee Working Group**, *Author of the first overview of the TLEP/FCC-ee physics potential.*
<http://inspirehep.net/record/1251418?ln=en>
- 2012-2014 **Snowmass Community Planning Study Group**, *Author of the QCD and Electroweak Working Group reports.*
<http://inspirehep.net/record/1261432?ln=en>
- 2008-now **Member of the Large Hadron Electron Collider (LHeC) Study Group**, *Author of the LHeC Conceptual Design Report.*
<http://inspirehep.net/record/1118165?ln=en>

Research supervision

Bachelor thesis/projects

- 2017 **Emanuel Hoogeveen**, *Higgs pair production at a 100 TeV hadron collider*, BSc project, Universiteit van Amsterdam.
- 2011 **Luca Rottoli**, *PDF systematic uncertainties for the determination of forward-backward asymmetry at the Large Hadron Collider*, Degree Thesis, Università di Milano.
- 2010 **Simone Lionetti**, *Dataset dependence of alphas determinations in global PDF analysis*, Degree Thesis, Università di Milano.
- 2009 **Alice Donati**, *Statistical aspects of the NNPDF determination of parton distributions*, Degree Thesis, Università di Milano.
- 2009 **Elisa Mariani**, *Determination of the QCD strong coupling constant in the NNPDF approach*, Degree Thesis, Università di Milano.

Master Thesis

- 2016 **Daniel Shipley**, *Searches for New Physics beyond the Standard Model at the LHC using ratios of cross-sections*, MPhys Final Project, University of Oxford.
- 2016 **Miriam Kuenzel**, *New Physics searches at the LHC with Higgs pair production*, Oxford MMathPhys Dissertation, University of Oxford.
- 2011 **Carmenigliotti**, *The impact of new theory into a global PDF analysis using bayesian inference*, Master Thesis, Università di Milano.
- 2011 **Giulia Calzolaio**, *The impact of high energy resummation on Parton Distributions and LHC phenomenology*, Master Thesis, Università di Milano.
- 2009 **Marco Zaro**, *kt factorization in inclusive jet production*, Master Thesis, Università di Milano.

Summer internships

- 2012 **Xin Fang**, *Four jet resonance searches with subjet algorithms in the boosted and unboosted regimes*, CMS summer research internship, CERN.
July 2014 to Aug 2014
- 2015 **Theodor Bjorkmo**, *Constraining the photon PDF from W pair production at the LHC*, Oxford Theoretical Physics internship.
June 2015 to Aug 2015
- 2016 **Hannah Tillim**, *Probing the Higgs quartic coupling at at 100 TeV hadron collider*, Oxford Theoretical Physics internship.
June 2016 to Sept 2016
- 2016 **Daniel Shipley**, *Searches for New Physics beyond the Standard Model at the LHC using ratios of cross-sections*, Oxford Theoretical Physics internship.
July 2016

Ph.D Thesis

- 2009-2013 **Francesco Cerutti**, *Neural network parton distributions for the LHC*, Ph.D Thesis, Universitat de Barcelona.

- 2010-2014 **Emanuele Roberto Nocera**, *An unbiased determination of polarized structure functions*, Ph.D Thesis, Università di Milano.
<http://arxiv.org/abs/1403.0440>
- 2014-2018 **Luca Rottoli**, *Parton distributions for the LHC Run II*, Ph.D Thesis, University of Oxford.
- 2014-2018 **Francesco Giuli**, *Pinning down PDFs with LHC data*, Ph.D Thesis, University of Oxford.
 Co-supervised together with Dr. Amanda Cooper-Sarkar (Particle Physics sub-department)
- 2016-2019 **Emma Slade**, *Parton distributions and jet substructure at the LHC*, Ph.D Thesis, University of Oxford.
[Post-doctoral Research Assistants](#)
- 2014-2016 **Marco Bonvini**, University of Oxford.
<http://www.ge.infn.it/~bonvini/>
- 2014-2017 **Nathan P. Hartland**, University of Oxford and VU Amsterdam.
- 2015-2017 **Valerio Bertone**, University of Oxford and VU Amsterdam.
- 2015-2017 **Emanuele Roberto Nocera**, University of Oxford.

Academic management

Distinctions

- 2017-2020 **Visiting Professorship, University of Oxford**.
 Awarded by the Mathematical, Physical and Life Sciences (MPLS) Division at the University of Oxford

Membership of academic societys

- **Member of the Young Academy of Europe (YAE)**.
<http://yacadeuro.org/>
- **Member of Dutch Research School of Theoretical Physics (DRSTP)**.

Membership of committees

- 2016-now **Amsterdam Institute of Physics and Astronomy Joint Activities committee**.
 In charge of coordinating the joint activities of the three Amsterdam institutes (DPA at the VU and IoP and API at the UvA) that constitute the virtual Amsterdam Institute of Physics and Astronomy

Undergraduate teaching and management

- 2015-2016 **Physics MPhys project Examiner**, *Rudolf Peierls Center for Theoretical Physics, University of Oxford*.
 Expert assessors in the evaluation and marking of MPhys projects in Theoretical Physics
- 2015-2016 **Physics Summer Research Projects Tutor**, *Rudolf Peierls Center for Theoretical Physics, University of Oxford*.
 Tutor of Year 3 Summer Research Projects Theoretical Physics
- 2015-now **Physics MPhys project Tutor**, *Rudolf Peierls Center for Theoretical Physics, University of Oxford*.
 Tutor of Year 4 MPhys projects in Theoretical Physics

Graduate school management

- 2015 **Physics MPhys project Examiner**, *Rudolf Peierls Center for Theoretical Physics, University of Oxford*.
 Expert assessors in the evaluation and marking of MPhys projects in Theoretical Physics
- 2015-now **Coordinator of the Graduate School Admissions at the Theoretical Physics group**, *Department of Physics, University of Oxford*.
 More info available from
<https://www2.physics.ox.ac.uk/research/particle-theory/graduate-study>

College management

- 2014-now **Physics undergraduate admissions**, *Balliol College, Oxford*.
 Member of the panel for the admissions of new Physics and Physics and Philosophy undergraduate students at Balliol College.

Research management

- 2016-now **Member of the Theory Computing Committee**, *Rudolf Peierls Center for Theoretical Physics, University of Oxford*.

Organization of conferences and workshops

- 2017 **Organizer of the workshop “Parton Distributions and Lattice Calculations in the LHC Era”**, *Oxford, UK, March 2017*.
<http://www.physics.ox.ac.uk/confs/PDFlattice2016/>
- 2017 **Member of the Local Organizing Committee of the Deep Inelastic Scattering 2017 workshop**, *Birmimgham, UK, April 2017*.

- 2016 **Convenor of the Parton Distributions parallel session of the QCD@LHC2016 Conference, Zurich, Switzerland, August 2015.**
QCD@LHC2016, <http://www.physik.uzh.ch/qcdatlhc/>
- 2015 **Convenor of the QCD parallel session of the EPS-HEP 2015 Conference, Vienna, Austria, July 2015.**
The European Physical Society Conference on High Energy Physics (EPS-HEP) 2015, <http://eps-hep2015.eu/>
- 2015 **Member of the Program Committee of the LHCP-2015 Conference, St Petersburg, Russia, September 2015.**
The 3rd Conference on Large Hadron Collider Physics (LHCP 2015) <http://hepd.pnpi.spb.ru/lhcp2015/index.shtml>
- 2015 **Organizer of the "Parton Distributions for the LHC Run II" Workshop, Benasque Center for Science, February 2015.**
<http://benasque.org/2015lhc/>
- 2014 **Theory convenor of the LHCb-Theory Workshop, Convenor of the "Forward Electroweak Physics, including pA" of the "Implications of LHCb measurements and future prospects", CERN, October 2014.**
<https://indico.cern.ch/event/324660/>
- 2014 **Organizer of the workshop "Topical workshop on top quark differential distributions", Cannes, France, September 2013.**
Website of the conference: <http://indico.cern.ch/e/top-differential-distributions-2014>
Write-up with the summary of the workshop: <http://arxiv.org/abs/1501.01112>
- 2013 **Convenor of the Parton Distributions session, Fermilab, November 2013.**
Workshop on QCD Tools for LHC Physics: From 8 to 14 TeV "What's needed and why?", <https://indico.cern.ch/conference0therViews.py?view=standard&confId=262192>
- 2013 **Discussion Leader at the 2013 Hadron Collider Physics Summer school, CERN, September 2013.**
The school is targeted at early stage postdocs and advanced graduates students in experimental particle physics and phenomenologists
- 2012-2014 **CMS PDF Workshop, CERN, May 2012.**
Convenor of the CMS PDF Forum, that organizes and coordinate PDF related activities among the various Physics Analysis Groups of the CMS experiment.
- 2010 **Taller de Altas Energias 2010, Universitat de Barcelona, September 2010.**
The Taller de Altas Energias is a joint graduate school for high energy students from all Spanish research institutions. Lectures and information from the TAE10 web:
<http://www.benasque.org/2010tae/cgi-bin/talks/allprint.pl>
- 2007-2008 **LPTHE seminars, Coordinator of the LPTHE (Universite Paris VI and Paris VII) weekly common seminar.**
- 2005-2006 **Phenomenology Journal Club, Departament d'Estructura i Constituents de la Materia, Universitat de Barcelona.**

Ph. D. Examinations

- 2014 **Internal Ph.D. Thesis Examiner, "Probing the structure and size of dark matter couplings at the large hadron collider", presented by Anthony Hibbs, University of Oxford, November 2015.**
- 2014 **Internal Ph.D. Thesis Examiner, "Phenomenology of Dark Radiation and String Compactifications", presented by Stephen Angus, University of Oxford, September 2014.**

Refereeing activities

- **Israel Science Foundation.**
Scientific Research Projects Reviewer
- **Agencia Nacional de Evaluación y Prospectiva (ANEP),** Scientific Projects Reviewer of the ANEP, Spanish Ministry of Economy and Competitivity.
- **Centro Nacional de Fisica de Particulas, Astroparticulas y Nuclear (CPAN),** Referee for CPAN postdoctoral fellowships.
- **Netherlands Organisation for Scientific Research,** Project Reviewer for NWO, the Dutch research council.
- **Romanian National Science Foundation,** Scientific Projects Reviewer.
- **Physics Letters B.**
- **Journal of High Energy Physics.**
- **Nuclear Physics B.**
- **Nuclear Physics A.**
- **European Journal of Physics C.**
- **International Journal of Modern Physics A.**

- IOP Journal of Physics G.
- Technological Forecasting and Social Change.
- Oxford University Press (Dictionary of Physics).
- Progress on Theoretical and Experimental Physics.

Memberships

- Member of the Young Academy of Europe (YAE).
<http://yacadeuro.org/>
- Member of Dutch Research School of Theoretical Physics (DRSTP).

Fellowships and Awards

- 2013 **Named one of the most valued reviewers of 2013 by the Editors of Physics Letters B.**
- 2013 **Awarded a Starting Grant of the European Research Council.**
In the 2012 call, for the project "Parton Distributions in the Higgs Boson Era".
- 2013 **Ramon y Cajal Fellowship, seven-year Junior Faculty Position.**
Awarded by the Spanish Ministerio de Economía y Competitividad (declined)
- 2013 **Ernest Rutherford Fellowship, five-year Junior Faculty Position at University of Oxford.**
Awarded by the Sciences and Technologies Facilities Council (STFC) of the United Kingdom
- 2012 **Cover of European Journal of Physics C 72,9.**
Linear vs non-linear QCD evolution: from HERA data to LHC phenomenology, by J. L. Albacete, J. G. Milhano, J. Rojo and P. Quiroga-Arias
- 2010 **Marie Curie Intra European Fellowship (IEF).**
Awarded a Marie Curie Intra European Fellowship for the project "Discovery@LHC", at the CERN TH Unit from September 2011 to September 2013
- 2002 **FPU Fellowship.**
given by the Ministerio de Educación y Ciencia (Spain) to support a Ph.D. thesis in the period 2002-2006
- 2002 **Undergraduate Award of the Physics Faculty.**
Awarded to the undergraduate student with best qualifications in the academic period 1998-2002

Funding ID

Funding as PI

- 2014 **United Kingdom Science and Technologies Facilities Council (STFC) Rutherford Grant, Total funding: £232420 for a period of three years, starting Sept 2015.**
PI: Juan Rojo
- 2013 **United Kingdom Science and Technologies Facilities Council (STFC) Rutherford Fellowship, Total funding: £540516 for a period of five years, starting April 2014.**
PI: Juan Rojo
- 2013 **European Research Council Starting Grant (Proposal No 335260 - PDF4BSM), Total funding: €1330502 for a period of five years, starting in June 2014.**
PI: Juan Rojo

Other funding

- 2015 **AMVA4NewPhysics Marie Curie Initial Training Network (ITN), Total funding awarded: €2.3M**, Participation as member of the Oxford Node of the network.
PI: T. Dorigo
- 2010 **HEPTOOLS MC Research training network,(MRTN-CT-2006-035505).**
PI: G. Degrassi
- 2010 **Colisions de ions pesados no LHC (INCITE08PXIB296116PR).**
PI: C. Salgado
- 2008 **Red Tematica del LHC, (FPA 2008-01699-E),Plan Nacional I+D+I.**
PI: B. Adeva

Media Appearances

- Interview **COPE Pirineos Radio, Interview about the Benasque Center for Science and the "Parton Distributions for the LHC" workshop.**
http://benasque.org/entrevistas/JLatorre_JRojo_LHC.mp3

- 2015 **Report and Interview**, *Aragon TV Evening News*, Report and interview about the "Parton Distributions for the LHC" workshop that I organized in the Benasque Center for Science.
<http://alacarta.aragontelevisi3n.es/informativos/aragon-noticias-1-19022015-1400> around minute 25, also available from the Youtube Channel of the Benasque Center for Science <https://www.youtube.com/watch?v=fVLEUFWcyZE&feature=youtu.be>
- 2015 **What goes on inside a proton?**, *The Guardian, Science section*, Article by Prof Jon Butterworth about the "Parton Distributions for the LHC" conference that I organized in the Benasque Center for Science.
<http://www.theguardian.com/science/life-and-physics/2015/feb/21/what-goes-on-inside-a-proton>
- 2014 **'Proton Spin Mystery Gains a New Clue'**, *Interview for Scientific American*.
 Available online at <http://www.scientificamerican.com/article/proton-spin-mystery-gains-a-new-clue1/>. This research is also mentied in Physics World <http://physicsworld.com/cws/article/print/2015/jun/04/the-spin-of-a-proton>
- 2014 **'Beyond the Boson: Higgs discovery and the next steps for particle physics'**, outreach article for the Physics Department Newsletter, University of Oxford, *Alan Barr and Juan Rojo*, Autumn 2014 issue.
 Available online at http://www2.physics.ox.ac.uk/sites/default/files/2014-10-15/physics_autumn_2014_newsletter_66798.pdf
- 2010-now **Scientific journalist for the electronic newspaper Il Sussidiario**.
<http://www.ilsussidiario.net/News/Scienze/>
<http://www.ilsussidiario.net/Autori/Archivio/2072/Juan-Rojo/>
<http://www.ilsussidiario.net/Intervistati/Archivio/2072/Juan-Rojo/>
- 2013 **i-CPAN**, *ERC Starting Grant Award*.
<http://www.i-cpan.es/detalleNoticia.php?id=337>

Scientific Outreach

- 2016 **Author, scientific populatization book, "La vida íntima de las partículas" (the inner life of particles, in Spanish)**, Colección "Descubrir la Ciencia" (*Discovering Science*), number 31.
<http://www.descubrirenciencia.com/index.php>



- 2016-now **Contributor to the AMVA4NP Network blog**, Outreach blog of the AMVA4NP MSC Innovative Training Network (ITN), of which I am part in the Oxford node.
<https://amva4newphysics.wordpress.com/>
- 2015 **St Aloysius Primary school, Science Fair**, *Particle Physics and CERN*.
 Special lecture for Year 5 and 6 students in the context of the school Science Fair
- 2015 **St Aloysius Primary school, Particle Physics and CERN**.
 Special lecture for Year 4 students
- 2015 **Oxford Work Experience**, Oxford Council program to provide work experience for high-school students in Year 10 to Year 13.
<https://www2.physics.ox.ac.uk/about-us/outreach/schools/work-experience>

- 2015 **Exploring the Energy Frontier at the Large Hadron Collider**, *Saturday Mornings of Theoretical Physics*, Oxford Physics event dedicated to alumni.
Slides and video available from <https://www2.physics.ox.ac.uk/research/rudolf-peierls-centre-for-theoretical-physics/saturday-mornings-of-theoretical-physics/febr>, Video and podcast available from <http://podcasts.ox.ac.uk/standard-model-and-lhc-higgs-boson-era>
- 2013 **As member of the CERN Theory group, Moderator of the International Masterclasses 2013, "Hands on Particle Physics"**.
<http://www.physicsmasterclasses.org/>
- 2012 **Scientific popularization talk: "What the LHC is teaching us"**.
Escola Pia High School, Vilanova i la Geltru, Barcelona, 28/11/2012,
<http://www.teor.mi.infn.it/~rojo/talks/rojo-LHC-public.pdf>
- 2010-now **Editor-in-chief of the Euresis Journal**.
<http://www.euresisjournal.org/>

Euresis Journal is a multidisciplinary, online, open-access journal edited by the Euresis Association, whose main scope is to promote, at an academic level, an understanding of science as a fully human pursuit, rooted into the universal human quest for beauty and meaning. This novel journal provides an opportunity to share with the largest number of people the experience of the conferences and workshops that are part of the activities of the Euresis Association.

- 2010 **Organizer of the public lecture: "Two paths towards the Big Bang: from quarks to cosmic radiation"**.
With the presentations of Marco Bersanelli (Milano, scientific responsible, PLANCK mission) and Albert de Roeck (CERN, CMS deputy spokesperson), at the Barcelona Science Museum - CosmoCaixa, Saturday 4th September 2010. Public lecture organized as part of the Activities of the Taller de Altas Energias 2010. These public lectures can be found at the TAE 2010 webpage
<http://www.benasque.org/2010tae/cgi-bin/talks/allprint.pl>
- 2009 **Organizer of the public conference: "The adventure of scientific research"**.
Facultat de Física of the Universitat de Barcelona, February 19th 2009, with M. Bersanelli (Milano), J. I. Latorre (U.B.), Lluís Victory (Institut Químic de Sarrià), as presentation of the spanish translation of the book "Only Wonder knows: the adventure of scientific research", by M. Bersanelli and M. Gargantini.

Computing skills

| | | |
|-----------------------------------|---|---|
| Advanced programming languages | Knowledge of advanced programming language for numerical simulations in high energy physics | These include C, C++, Fortran 77, Fortran 90, Java and Python |
| HTML | Internet programming | |
| Mathematica, Matlab, Origin, Root | Knowledge of several data analysis, algebraic manipulation and graphical representation tools | |
| LaTeX edition software | Knowledge of LaTeX edition software | |

Languages

| | | |
|---------|---------------------------|-------------------|
| Spanish | Spoken and written | <i>Native</i> |
| Catalan | Spoken and written | <i>Native</i> |
| English | Spoken and written | <i>Proficient</i> |
| French | Spoken and written | <i>Advanced</i> |
| Italian | Spoken and written | <i>Advanced</i> |
| Dutch | Spoken and written | <i>Beginner</i> |

Selected talks

- 2017 **Invited plenary talk**, *Review of Recent Progress in PDFs*, Large Hadron Collider Physics Conference 2017 (LHCP2017).
Shanghai, China, May 2017
- 2015 **Invited review talk**, *Parton Distributions at the LHC Run II*, ATLAS Standard Model Workshop.
LAPP, Annecy, France, February 2015
- 2013 **Opening talk of the conference**, *Status and future of PDFs from a theoretical perspective*, Deep-Inelastic Scattering Workshop 2013.
Marseille, France, April 2013.

Recorded talks

- 2015 **The Standard Model and the Large Hadron Collider in the Higgs Boson Era**, *Oxford Saturday Mornings of Theoretical Physics*.
<http://podcasts.ox.ac.uk/standard-model-and-lhc-higgs-boson-era>
- 2012 **Physics potential of precision measurements of the LHC luminosity**, *LHC Lumi Days 2012*.
<https://mediastream.cern.ch/MediaArchive/Video/Public/WebLectures/2012/162948c19/master.mp4>

Talks and seminars

- **Slides**, The slides for a selected set of recent talks can be obtained from .
<http://juanrojo.com/talks>
 - **Slides**, Slides for older talks are available from .
<http://www.teor.mi.infn.it/~rojo/seminars.html>
 - **SlideShare**, Some of the most recent talks are also available from SlideShare .
<http://www.slideshare.net/juanrojochacon/>
- 2017 **Invited plenary talk**, *Review of Recent Progress in PDFs*, Large Hadron Collider Physics Conference 2017 (LHCP2017).
Shanghai, China, May 2017
- 2015 **Seminar**, *Parton Distributions for the LHC Run II*, European Physical Society Conference on High Energy Physics 2015 (EPS-HEP2015).
Vienna, Austria, July 2015
- 2015 **Invited review talk**, *PDF uncertainties for Higgs measurements at the LHC Run II*, Higgs Cross-Section Working Group Meeting.
CERN, Switzerland, June 2015
- 2015 **Seminar**, *The structure of the proton in the Higgs Boson era*, IPPP Durham Theory seminar.
IPPP, Durham University, UK, June 2015
- 2015 **Review talk**, *Constraining PDFs at the High-Luminosity LHC*, High-Luminosity LHC Physics Workshop.
CERN, May 2015
- 2015 **Seminar**, *News from NNPDF: Towards NNPDF3.1*, PDF4LHC Workshop.
CERN, April 2015
- 2015 **Seminar**, *The structure of the proton in the Higgs Boson era*, Berkely/LBNL Theory seminar.
Berkeley Center for Theoretical Physics, Berkeley, USA, April 2015
- 2015 **Seminar**, *The structure of the proton in the Higgs Boson era*, SLAC experimental seminar.
SLAC, Stanford, USA, April 2015
- 2015 **Review talk**, *NNPDF30 and Monte Carlo event generators for SM and BSM processes*, ATLAS Physics Modeling Group Plenary Meeting.
CERN, Switzerland, March 2015
- 2015 **Seminar**, *NNPDF: plans for the LHC Run II*, Parton Distributions for the LHC Workshop.
Benasque Center for Science, Spain, February 2015
- 2015 **Seminar**, *Characterizing New Physics with Polarized Beams at High-Energy Hadron Colliders*, FCC Working Group on experiments with the CERN injectors.
CERN, Switzerland, February 2015
- 2015 **Seminar**, *Review of PDF systematics for the determination of the W mass at the LHC*, LPCC Electroweak Working Group.
CERN, Switzerland, February 2015
- 2015 **Seminar**, *PDF uncertainties at the LHC made easy: a compression algorithm for the combination of PDF sets*, PDF4LHC meeting.
CERN, Switzerland, January 2015
- 2015 **Seminar**, *The structure of the proton in the Higgs boson era*, NIKHEF Theory Seminar.
NIKHEF, Amsterdam, Netherlands, January 2015
- 2014 **Seminar**, *Parton distributions for the LHC and for future colliders*, Theoretical Particle Physics and Cosmology seminar.
King's College, London, UK, December 2014
- 2014 **Seminar**, *Boosting strong Higgs pair production at a 100 TeV hadron collider*, Meeting of the Higgs and EWSB Working Group of the Future Circular Collider Study.
CERN, Switzerland, November 2014

- 2014 **Seminar**, *Boosting strong Higgs pair production at the LHC*, Particle Phenomenology Forum. Oxford, UK, November 2014
- 2014 **Seminar**, *NNPDF3.0: Next generation PDFs for the LHC Run II*, PDF4LHC Working Group Meeting. CERN, Switzerland, November 2014
- 2014 **Seminar**, *Constraining the gluon PDFs with NNLO top quark pair differential distributions*, Topical Workshop on Top Quark Differential Distributions. Cannes, France, September 2014
- 2014 **Seminar**, *Pinning down the $hhVV$ quartic coupling from Higgs boson pair production in vector-boson fusion*, BOOST 2014 Workshop. London, UK, August 2014
- 2014 **Invited Talk**, *NNPDF3.0: Next Generation PDFs for the LHC Run II*, ATLAS Monte Carlo Working Group. CERN, Switzerland, July 2014
- 2014 **Invited Talk**, *aMCfast: Automation of NLO computations for PDF fits*, ATLAS PDF Fit Forum Meeting. CERN, Switzerland, July 2014
- 2014 **Talk**, *NNPDF3.0: Next Generation PDFs for the LHC Run II*, International Conference on High-Energy Physics. Valencia, Spain, July 2014
- 2014 **Seminar**, *Pinning down the $hhVV$ quartic coupling from Higgs boson pair production in vector-boson fusion*, Workshop of the LHC Higgs Cross Section Working Group. CERN, Switzerland, June 2014
- 2014 **Seminar**, *The next generation: The NNPDF3.0 parton set for the LHC Run II*, PDF4LHC workshop. CERN, Switzerland, May 2014
- 2014 **Seminar**, *Tuning Pythia8.1: The Monash 2013 Tune and NNPDF2.3LO*, CMS Generator Tools Group meeting. CERN, Switzerland, May 2014
- 2014 **Invited talk**, *The structure of the proton in the Higgs boson era*, Away Day presentation of the new Clarendon Laboratory II building. University of Oxford, UK, April 2014
- 2014 **Seminar**, *Boosting Strong Higgs Boson Pair Production at the LHC and at the FCC*, CERN Future Hadron Colliders Working Group meeting. CERN, Switzerland, April 2014
- 2014 **Invited plenary talk**, *Parton Distributions at the LHC*, SM@LHC Conference. CIEMAT, Madrid, Spain, April 2014
- 2014 **Invited plenary talk**, *QCD at the LHC: recent progress and open problems*, Les Rencontres de Physique de la Vallée d'Aoste 2014. La Thuile, Italy, Feb 2014
- 2014 **Invited talk**, *Parton Distributions at a 100 TeV Future Circular Collider*, Future Circular Collider Kick-off meeting. University of Geneva, Switzerland, Feb 2014
- 2014 **Seminar**, *Nuclear Parton Distributions at a 100 TeV Future Circular Collider*, Future Circular Collider Working meetings - Heavy Ion working Group. CERN, Switzerland, Jan 2014
- 2014 **Seminar**, *Parton Distributions at a 100 TeV Future Circular Collider*, Future Circular Collider Working meetings. CERN, Switzerland, Jan 2014
- 2014 **Review talk**, *The strange and charming content of the proton and New Physics searches*, The top-charm frontier at the LHC. CERN, Switzerland, Jan 2014
- 2013 **Seminar**, *Automation of fast NLO calculations for PDF fits*, PDF4LHC workshop. CERN, Switzerland, Dec 2013
- 2013 **Seminar**, *Automation of fast NLO calculations for PDF fits*, HERAFitter User's meeting. CERN, Switzerland, Dec 2013
- 2013 **Invited talk**, *Parton distributions with QED corrections and LHC phenomenology*, LHCphenoNet Midterm Meeting. CERN, Switzerland, Dec 2013

- 2013 **Review talk**, *PDF constrains from the lepton charge asymmetry at the LHC*, Collider Cross-Talk seminar. CERN, Switzerland, Sep 2013.
- 2013 **Talk**, *Scale-invariant resonance tagging in multijet final states*, BOOST2013 Workshop. Flagstaff, Arizona, U.S.A, Aug 2013
- 2013 **Parallel talk**, *Parton distributions in the Higgs boson era*, LHC Physics 2013 Conference. Barcelona, Spain, May 2013.
- 2013 **Invited plenary talk**, *Parton Distribution Functions (Theory)*, Deep-Inelastic Scattering Workshop 2013. Marseille, France, April 2013.
- 2013 **Seminar**, *Pinning down the gluon with top quark data at the LHC*, TOPLHCWG workshop. CERN, Switzerland, April 2013
- 2013 **Invited review talk**, *Overview of LHC observables of potential interest for PDFs*, PDF4LHC workshop. CERN, Switzerland, April 2013
- 2013 **Parallel talk**, *Scale-invariant resonance tagging in multijet final states and new physics in Higgs pair production*, Deep-Inelastic Scattering Workshop 2013. Marseille, France, April 2013.
- 2013 **Parallel talk**, *Constrains on the gluon PDF from top quark data at hadron colliders*, Deep-Inelastic Scattering Workshop 2013. Marseille, France, April 2013.
- 2013 **Parallel talk**, *The impact of PDF uncertainties on the measurement of the W boson mass at the Tevatron and the LHC*, Deep-Inelastic Scattering Workshop 2013. Marseille, France, April 2013.
- 2013 **Seminar**, *Parton Distribution in the Higgs Boson Era*, Departament d'Estructura i Constituents de la Materia, Universitat de Barcelona. Barcelona, Spain, April 2013.
- 2013 **Invited review talk**, *Theoretical uncertainties in the determination of the mass of the W boson at hadron colliders*, Electroweak Measurements at the Energy Frontier Workshop. Duke University, USA, Feb 2013
- 2013 **Invited review talk**, *Use of LHC data in global PDF fits (present and future)*, Snowmass preparation Mini-Workshop. Fermilab, USA, Jan 2013
- 2013 **Seminar**, *Parton distributions in the Higgs boson era*, Rencontre des Particules 2013. LSMC, Grenoble, France, Jan 2013.
- 2013 **Seminar**, *Parton distributions in the Higgs boson era*, LPT Particle Physics Seminar. LSMC, Grenoble, France, Jan 2013.
- 2012 **Invited review talk**, *Parton Distribution Benchmarking with LHC data*, PDF4LHC Workshop. CERN, Switzerland, Dec 2012.
- 2012 **Seminar**, *PDF constraints from top quark distributions*, LPCC Top LHC Working Group. CERN, Geneva, Switzerland, Nov 2012.
- 2012 **Seminar**, *Parton distributions in the Higgs boson era*, Max Planck Munich Theoretical Physics seminars. Max Planck Institute, Munich, Germany, Nov 2012.
- 2012 **Seminar**, *Parton distributions in the Higgs boson era*, ITP Theoretical Physics Seminar. ITP. EPF Lausanne, Switzerland, Nov 2012.
- 2012 **Seminar**, *Parton distributions in the Higgs boson era*, Particle physics seminar. Annecy, France, Nov 2012.
- 2012 **Invited review talk**, *Benchmarking of Parton Distributions with LHC data*, PDF4LHC Workshop. CERN, Switzerland, Oct 2012.
- 2012 **Seminar**, *Cross section ratios between 8 and 7 TeV for diboson observables at the LHC*, Electroweak Working Group Meeting. CERN, Oct 2012.
- 2012 **Seminar**, *Parton distributions in the Higgs boson era*, Particle physics seminar. Oxford, UK, Nov 2012.
- 2012 **Review talk**, *Cross Section Ratios between different CM energies at the LHC: Precision measurements and BSM sensitivity*, Collider Cross-Talk seminar. CERN, Switzerland, Aug 2012.
- 2012 **Invited review talk**, *Benchmarking of Parton Distributions with LHC data*, QCD@LHC Workshop. Michigan State University, USA, August 2012

- 2012 **Invited review talk**, *Nuclear Parton Distributons from the LHC pPb data*, pPb@LHC Workshop.
CERN, Switzerland, June 2012
- 2012 **Seminar**, *NNPDF2.3: Parton Distributions from LHC data*, PDF4LHC workshop.
CERN, Switzerland, May 2012
- 2012 **Seminar**, *Cross Section ratios between different CM energies at the LHC: opportunities for precision measurements and BSM sensitivity*, PDF4LHC workshop.
CERN, Switzerland, May 2012
- 2012 **Seminar**, *Physics potential of cross section ratios between LHC energies*, PDF4LHC.
CERN, Switzerland, May 2012
- 2012 **Plenary Talk**, *PDF studies at the AFTER experiment*, SPRING 2012 AFTER Meeting: A Fixed-Target ExpeRiment using the LHC beams.
Grenoble, France, May 2012
- 2012 **Plenary Talk**, *Physics potential of precision measurements of LHC luminosity*, LHC LumiDays 2012 Workshop.
CERN, Switzerland, February 2012
- 2012 **Plenary Talk**, *FONLL GM-VFN implementation in HERAFitter*, HERAFitter Workshop.
Marseille, France, February 2012
- 2012 **Invited Plenary Talk**, *PDF Theory*, Aspen winter workshop.
Aspen, Colorado, U.S.A., February 2012
- 2011 **Invited Talk**, *Automation of NLO QCD computations*, Trobada de Nadal de Fisica Teorica.
Universitat de Barcelona, Barcelona, December 2011
- 2011 **Seminar**, *W+charm production with aMCatNLO and the strange content of the proton*, LPCC Electroweak Working Group workshop.
CERN, Switzerland, november 2011
- 2011 **Seminar**, *NNPDF update*, talk given at the PDF4LHC workshop.
CERN, Switzerland, november 2011
- 2011 **Seminar**, *Parton distributions for precision LHC phenomenology (and more)*, talk given at the CERN TH Particle and Astroparticle physics seminar.
CERN, Switzerland, september 2011
- 2011 **Parallel Talk**, *Nuclear Parton Distributions and deviations from DGLAP evolution at an Electron Ion Collider*, talk given at DIS 2011.
Newport News, USA, april 2011
- 2011 **Parallel Talk**, *The W lepton asymmetry data and PDFs from the Tevatron to LHC*, talk given at DIS 2011.
Newport News, USA, april 2011
- 2011 **Parallel Talk**, *The impact of heavy quark mass effects in PDFs and LHC phenomenology*, talk given at DIS 2011.
Newport News, USA, april 2011
- 2011 **Parallel Talk**, *NNPDF progress: NNPDF2.1, NNLO sets, strong coupling determination*, talk given at DIS 2011.
Newport News, USA, april 2011
- 2011 **Parallel Talk**, *Jet reconstruction in heavy ion collisions*, talk given at DIS 2011.
Newport News, USA, april 2011
- 2011 **Seminar**, *NNPDF progress: NNLO, alphas and the treatment of the NMC data*, talk given at the PDF4LHC working group workshop.
CERN, March 2011
- 2011 **Invited Plenary Talk**, *Progress and open problems in Parton Distributions*, XXIV Rencontres de Physique de la Vallee d'Aoste.
La Thuile, Italy, February 2011
- 2011 **Invited Talk**, *Unbiased parton distributions for precision LHC phenomenology*, talk given at the Kick-off meeting of the LHCPheNoNet Initial Training Network.
Valencia, February 2011
- 2010 **Seminar**, *The impact of W lepton asymmetry data into the global analysis*, talk given at the PDF4LHC workshop.
DESY Hamburg, November 2010
- 2010 **Seminar**, *Theoretical uncertainties due to heavy quark masses*, talk given at the PDF4LHC workshop.
DESY Hamburg, November 2010

- 2010 **Invited seminar**, *The NNPDF approach to PDF determination: methodology and results*, INFN Sezione di Pavia.
Pavia, Italy, November 2010
- 2010 **Invited Talk**, *Strangeness in the unpolarized and polarized NNPDF global analysis and implications for the JLAB 12 GeV upgrade*, invited talk given at the “Probing strangeness in hard processes” workshop.
Frascati, October 2010
- 2010 **Seminar**, *NNPDF2.1: the impact of heavy quark mass effects in the NNPDF global analysis*, talk given at the PDF4LHC workshop.
CERN, July 2010
- 2010 **Invited Talk**, *The computation of hadronic processes at the LHC: from parton distributions to matrix elements and parton showers*, talk given at the Journal Club of the Departament d'Estructura i Constituents de la Materia.
Universitat de Barcelona, May 2010
- 2010 **Parallel Talk**, *A determination of polarized parton distributions with faithful uncertainty estimation*, talk given at the “Spin physics” working group of the DIS 2010 workshop.
Firenze, April 2010
- 2010 **Parallel Talk**, *The impact of LHeC data on PDF determination*, talk given at the “Future facilities” working group of the DIS 2010 workshop.
Firenze, April 2010
- 2010 **Parallel Talk**, *Heavy quarks in Deep-Inelastic Scattering*, talk given at the “Heavy quarks” working group of the DIS 2010 workshop.
Firenze, April 2010

2004-2009 **More 30 additional talks than in the period 2004-2009.**