

Filippo Delcarro | Curriculum vitae

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Education

- 2019–Present **Postdoctoral Researcher**, Jefferson Lab (USA).
Supervisor: Dr. Jianwei Qiu.
My current research activity investigate strong interactions, in particular in relation to nucleon structure. It deals with phenomenological analysis, extracting models for parton distribution and fragmentation functions from experimental data, and with theoretical calculations of structure functions in scattering processes.
- 2015–2019 **Ph.D. in Theoretical Physics**, University of Pavia (Italy).
Thesis: *Phenomenological analysis of unpolarized partonic Transverse Momentum Distributions and Sivers Function.*
Supervisor: Prof. Alessandro Bacchetta.
- 2013–2015 **Master' s Degree in Nuclear Physics**, University of Pavia (Italy), 110/110.
Thesis: *Extraction of Transverse Momentum Dependent Distribution with QCD evolution from semi inclusive DIS.*
Supervisor: Prof. Alessandro Bacchetta.
- 2010–2013 **Bachelor' s degree in Physics**, University of Pavia (Italy).
Thesis: *GDH Sum Rule - Derivation, consequences and experimental validation.*
Supervisor: Prof. Paolo Pedroni.

Languages

Italian	Mother tongue	English	Advanced level
German	Basic level	Spanish	Basic level

Computing skills

Programming	Fortran, Python, C++, bash	Analytical	Mathematica, Matlab
HEP libraries	LHAPDF, APFEL++, fDSS, ROOT	Other	Latex, Office, vim, git

Teaching

- 2016–2018 *Medical Physics Teaching Assistant* (Pavia, Faculty of Medicine) .
- 2017–2018 *Electromagnetism II Teaching Assistant* (Pavia, Faculty of Physics) .

Visiting and Schools

Research period abroad

- February 2018–April 2018 Collaboration with Nikhef (Amsterdam,NL), hosted by Piet Mulders

Summer Schools

- June 2016 HUGS - Hampton University Graduate Studies Program XXXI at JLab
August 2019 CFNS Summer School on the Physics of the Electron Ion Collider (EIC) at Stony Brook

Conferences and Seminars

Conferences attended as speaker:

- 2019 **POETIC 9** - IX International Conference on Physics Opportunities at an EIC.
Berkeley, CA (USA), 16-21 September 2019
ELBA 2019 - Lepton Interactions with Nucleons and Nuclei.
Marciana Marina (Italy), 23-28 June 2019
JLab Seminars - Series of seminars on hadron physics.
Jefferson Lab, Newport News, VA (USA), 1 May 2019
- 2018 **DIS 2018** - XXVI international workshop on DIS and related subjects .
Kobe (Japan), 16-20 April 2018
IWHSS 2018 - International workshop on hadron structure and spectroscopy .
Bonn (Germany), 19-22 March 2018
- 2017 **Transversity 2017**
Rome (Italy), 11-15 December 2017
DSPIN-2017 - XVII Workshop on High Energy Spin Physics
Dubna (Russia), 11-15 September 2017
Hadron Physics and Non Perturbative QCD 2017
INFN Torino (Italy), 22-24 May 2017
Opportunities offered by EIC
INFN Genova (Italy), 17 January 2017
- 2016 **SPIN-2016** - XXII International Spin Symposium
Univ. of Illinois (USA), 25-30 September 2016

List of publications

Filippo Delcarro – Theory Center, Jefferson Lab

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PhD Thesis

Phenomenological analysis of unpolarized partonic Transverse Momentum Distributions and Sivers Function.

Supervisor: Prof. A. Bacchetta

January 2019 [hep-ph]

Publications in peer reviewed journals

Extraction of partonic transverse momentum distributions from semi-inclusive deep-inelastic scattering, Drell-Yan and Z-boson production.

Authors: A. Bacchetta, F. Delcarro, C. Pisano, M. Radici, A. Signori.

Journal: Journal of High Energy Physics 1706 (2017) 081

DOI: doi.org/10.1007/JHEP06(2017)081

Working papers

The following works were concluded during the first months of my postdoc, presented at major conferences and will be published soon.

1. **Determination of unpolarized TMDs up to N³LL using Drell-Yan data.**
Authors: A. Bacchetta, V. Bertone, C. Bissolotti, G. Bozzi, F. Delcarro, F. Piacenza, and M. Radici
e-Print Archive: arXiv.org/1912.07550[hep-ph]
2. **Constraining the gluon helicity distribution at the Electron-Ion Collider**
Authors: C. Andres, F. Delcarro, W. Melnitchouk, J. Qiu, N. Sato and R. Yoshida
3. **Phenomenological analysis of partonic Sivers function and related constraints on quark angular momentum.**
Authors: A. Bacchetta, F. Delcarro and M. Radici

Proceedings

1. **Extraction of Transverse Momentum Distributions from semi-inclusive DIS and Drell-Yan data.**
DIS 2018 - XXVI international workshop on Deep Inelastic Scattering and related subjects. *Kobe (Japan), 16-20 April 2018*
(PoS DIS2018 (2018) 219)
2. **Global extraction of partonic transverse momentum distributions.**
DSPIN-2017 - XVII Workshop on High Energy Spin Physics

Dubna (Russia), 11-15 September 2017
(J.Phys.Conf.Ser. 938 (2017) no.1, 012041)

3. **Extraction of partonic TMDs from SIDIS, Drell-Yan and Z-boson production.**
SPIN-2016 - XXII International Spin Symposium
Univ. of Illinois (USA), 25-30 September 2016