

FRANCESCO P. UCCI

PhD Student in Theoretical Physics
(B)SM Phenomenology / Monte Carlo Generators
/ Radiative Corrections



University of Pavia



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CURRENT POSITION

10/2023– Today	PhD Student Standard Model (EFT) phenomenology at low and high energy colliders. Monte Carlo development for luminosity and signal processes at flavour factories. New Physics at future colliders. Advisor: FULVIO PICCININI • fulvio.piccinini@pv.infn.it BabaYaga / QED corrections / Parton Shower / SMEFT	University of Pavia
2023-Today	Cultore della Materia Settore disciplinare FIS02	University of Pavia

EDUCATION

10/2021-10/2023	Master's Degree in Theoretical Physics 110/110 cum laude Thesis: <i>New Physics contamination in precision Bhabha scattering at future colliders</i> I have investigated the contamination to the small angle Bhabha scattering cross section from possible New Physics for FCC-ee precision luminosity measurements. Advisor: Fulvio PICCININI • fulvio.piccinini@pv.infn.it	University of Pavia
10/2018-12/2021	Bachelor Degree in Theoretical Physics 103/110 Thesis: <i>Diving into jets</i> This thesis aimed to review the theoretical and phenomenological aspects of jets and jet algorithms. Advisor: Daniela REBUZZI • daniela.rebuzzi@unipv.it	University of Pavia

SCHOOLS

09/2024	Simon Eidelmann School on Muon dipole moments and hadronic effects	KMI, Nagoya
01/2023	GGI Lectures on Fundamental Interactions	Galileo Galilei Institute, Florence
06/2023	Summer School on Particle Physics	ICTP, Trieste
07-09/2022	DESY Summer Student NLO QCD and EW predictions for $t\bar{t}$ and $t\bar{t}H$ production and decay at a Muon Collider Advisor: Juergen REUTER • juergen.reuter@desy.de Whizard / Rivet	DESY, Hamburg

PUBLICATIONS

- [1] Riccardo Aliberti et al. Radiative corrections and Monte Carlo tools for low-energy hadronic cross sections in e^+e^- collisions. 10 2024.
- [2] E. Budassi, C. M. Carloni Calame, M. Ghilardi, A. Gurgone, G. Montagna, M. Moretti, O. Nicrosini, F. Piccinini, and F. P. Ucci. Pion pair production in e^+e^- annihilation at next-to-leading order matched to Parton Shower. 9 2024.
- [3] Mauro Chiesa, Clara L. Del Pio, Guido Montagna, Oreste Nicrosini, Fulvio Piccinini, and Francesco P. Ucci. New Physics contamination to precision luminosity measurements at future e^+e^- colliders. 1 2025.

TALKS

7/05/25	Handling the internal structure of the pion in $e^+e^- \rightarrow \pi^+\pi^-$ Workshop on Radiative Corrections and Monte Carlo generators for electron-positron collisions	Scuola Normale Superiore, Pisa
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10/04/25	Contaminazione da Nuova Fisica in misure di luminosità di precisione a futuri acceleratori e^+e^- Incontri di Fisica delle Alte Energie 2025	Cagliari
20/02/25	Communicating the importance of Particle Physics Symposium on the EPPSU ECRs White Paper	CERN
5/11/24	Investigating New Physics contamination in luminosity measurements at FCC-ee 2nd FCC Italy & France Workshop	Venice
10/10/24	Investigating New Physics contamination in luminosity measurements at future colliders Paris 3rd ECFA workshop on e^+e^- Higgs, Electroweak and Top Factories	
3/6/24	$e^+e^- \rightarrow \pi^+\pi^-$ at NLO matched with parton shower with BabaYaga@NLO The Evaluation of the Leading Hadronic contribution to the Muon $g - 2$	MITP, Mainz

POSTERS

22/05/25	New Physics contamination in small-angle Bhabha scattering at FCC-ee FCC Week 2025	Wien
11/04/25	Produzione di coppie di pioni in annichilazioni e^+e^- all'ordine next-to-leading combinato con Parton Shower Incontri di Fisica delle Alte Energie 2025	Cagliari
Jan 25	New Physics contamination in small-angle Bhabha scattering at FCC-ee 8th FCC Physics Week	CERN
Sept 2024	Pion pair production in e^+e^- annihilation at next-to-leading order matched to Parton Shower Muon $g - 2$ Theory Initiative	KEK, Tsukuba
Sept 2024	Pion pair production in e^+e^- annihilation at next-to-leading order matched to Parton Shower Simon Eidelmann School on Muon Dipole Moments and Hadronic Effects Best Poster Award	KMI, Nagoya

ORGANISATION

2025	Early Career Researchers input to the European Particle Physics Strategy Update Organisation and convienership of the Communication WP and editing of the EPPSU ECRs White Paper	
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TEACHING

AY 23-24 AY 22-23	Didactic Seminars I was assigned 12 hours of Didactic Seminars for the Course <i>Experimental Physics with Laboratory</i> at the Chemistry Department Reference: Gianluca INTROZZI · gianluca.introzzi@unipv.it	University of Pavia
AY 22/23	Physics Tutor I have tutored for the following courses <ul style="list-style-type: none"> • Classical Mechanics, PHYSICS References: Prof. Alessandro LASCIALFARI · alessandro.lascialfari@unipv.it • Physics with Laboratory, CHEMISTRY References: Prof. Gianluca INTROZZI · gianluca.introzzi@unipv.it • Medical Physics, MEDICINE References: Prof. Giorgio BAIOTTO · giorgio.baiotto@unipv.it • Physics, SPORT SCIENCE References: Prof. Alessandro BISIO · alessandro.bisio@unipv.it 	University of Pavia

OUTREACH

2025	Lab2Go I am tutoring a project with high school students to redevelop their physics laboratories	INFN Pavia
17/12/24	The Standard Model is Dead. Long live the Standard Model Outreach talk on particle physics research for bachelor students	Pavia
2019,2023	European Researchers' Night	Pavia -Vigevano

LANGUAGES

Italian - native
English - proficient
French - rudimentary

ASSOCIATIONS

INFN PhD Students Association
CERN RnD FCC PART Associate

CODING

Python	
Fortran	
Mathematica	
C++	