

# Curriculum Vitae

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# 1 Posizioni

Attualmente sono un professore associato presso il dipartimento di Scienze Fisiche, Informatiche e Matematiche dell'università di Modena e Reggio Emilia (UNIMORE).

Year	Activity	Institution
01/09/2023-presente	Professore associato	UNIMORE
10/01/2019-present	Professore associato	USP, Instituto de Física
29/02/2015-09/01/2019	Professor	USP, Instituto de Física
2013-2014	Postdoc	IFAE, Barcelona
2011-2013	Postdoc	IPHT, CEA-Paris
2009-2011	Dottorato	Scuola Normale Superiore, Pisa
2007-2008	Laurea magistrale	University of Padua
2002-2006	Laurea triennale	University of Padua

Supervisore del dottorato: Prof. Riccardo Barbieri (Scuola Normale Superiore, Pisa).  
Supervisore della tesi di laurea magistrale: Prof. Ferruccio Feruglio (University of Padua).

# 2 Ricerca

## 2.1 Produzione scientifica

Segue la lista degli articoli pubblicati. **Nel mio campo di ricerca, gli autori sono elencati in ordine alfabetico.**

1. E. Bertuzzo, T. Sassi and A. Tesi,  
“Complex Dark Photon Dark Matter EFT,”  
(arXiv:2406.14437 [hep-ph]).
2. E. Bertuzzo, Y. F. Perez-Gonzalez, G. M. Salla and R. Z. Funchal,  
“Gravitationally produced Dark Matter and primordial black holes,”  
(arXiv:2405.17611 [hep-ph]).
3. E. Bertuzzo, C. Grojean and G. M. Salla,  
“ALPs, the on-shell way,”  
JHEP **05** (2024), 175 doi:10.1007/JHEP05(2024)175  
(arXiv:2311.16253 [hep-ph]).
4. D. Barducci, E. Bertuzzo, M. Taoso and C. Toni, JHEP **03** (2023), 239 doi:10.1007/JHEP03(2023)239  
(arXiv:2209.13469 [hep-ph]).
5. J. L. Feng, F. Kling, M. H. Reno, J. Rojo, D. Soldin, L. A. Anchordoqui, J. Boyd, A. Ismail, L. Harland-Lang and K. J. Kelly, *et al.*  
“The Forward Physics Facility at the High-Luminosity LHC,”  
(arXiv:2203.05090 [hep-ex]).
6. E. Bertuzzo, A. L. Foguel, G. M. Salla and R. Z. Funchal,  
“New limits on leptophilic ALPs and Majorons from ArgoNeuT,”  
(arXiv:2202.12317 [hep-ph]). Submitted to PRL.

7. E. Bertuzzo, A. Scaffidi and M. Taoso,  
“Searching for inelastic dark matter with future LHC experiments,”  
(arXiv:2201.12253 [hep-ph]). Accepted for publication in JHEP.
8. D. Barducci and E. Bertuzzo,  
“The see-saw portal at future Higgs factories: the role of dimension six operators,”  
(arXiv:2201.11754 [hep-ph]). Accepted for publication in JHEP.
9. E. Bertuzzo, G. G. di Cortona and L. M. D. Ramos,  
“Probing light vector mediators with coherent scattering at future facilities,”  
(arXiv:2112.04020 [hep-ph]). Accepted for publication in JHEP.
10. D. Barducci, E. Bertuzzo, G. G. di Cortona and G. M. Salla,  
“Dark photon bounds in the dark EFT,”  
JHEP **12** (2021), 081 doi:10.1007/JHEP12(2021)081 [arXiv:2109.04852 [hep-ph]].
11. G. F. S. Alves, E. Bertuzzo and G. M. Salla,  
“An on-shell perspective on neutrino oscillations and non-standard interactions,”  
(arXiv:2103.16362 [hep-ph]).
12. D. Barducci, E. Bertuzzo, A. Caputo, P. Hernandez and B. Mele,  
“The see-saw portal at future Higgs Factories,”  
JHEP **03** (2021), 117 doi:10.1007/JHEP03(2021)117 (arXiv:2011.04725 [hep-ph]).
13. D. Barducci, E. Bertuzzo and M. A. Tupia,  
“Gravitational tests of electroweak relaxation,”  
JHEP **07** (2021), 119 doi:10.1007/JHEP07(2021)119 [arXiv:2011.05795 [astro-ph.CO]].
14. E. Bertuzzo and M. Taoso,  
“Probing light dark scalars with future experiments,”  
JHEP **03** (2021), 272 doi:10.1007/JHEP03(2021)272 [arXiv:2011.04735 [hep-ph]].
15. D. Barducci, E. Bertuzzo, A. Caputo and P. Hernandez,  
“Minimal flavor violation in the see-saw portal,”  
JHEP **06** (2020), 185 doi:10.1007/JHEP06(2020)185 [arXiv:2003.08391 [hep-ph]].
16. M. Arteaga, E. Bertuzzo, C. Caniu Barros and Z. Tabrizi,  
“Operators from flavored dark sectors running to low energy,”  
Phys. Rev. D **99** (2019) no.3, 035022 doi:10.1103/PhysRevD.99.035022 [arXiv:1810.04747 [hep-ph]].
17. H. Beauchesne, E. Bertuzzo and G. Grilli Di Cortona,  
“Dark matter in Hidden Valley models with stable and unstable light dark mesons,”  
JHEP **04** (2019), 118 doi:10.1007/JHEP04(2019)118 [arXiv:1809.10152 [hep-ph]].
18. E. Bertuzzo, S. Jana, P. A. N. Machado and R. Zukanovich Funchal,  
“Neutrino Masses and Mixings Dynamically Generated by a Light Dark Sector,”  
Phys. Lett. B **791** (2019), 210-214 doi:10.1016/j.physletb.2019.02.023 [arXiv:1808.02500 [hep-ph]].
19. E. Bertuzzo, S. Jana, P. A. N. Machado and R. Zukanovich Funchal,  
“Dark Neutrino Portal to Explain MiniBooNE excess,”

- Phys. Rev. Lett. **121** (2018) no.24, 241801 doi:10.1103/PhysRevLett.121.241801 [arXiv:1807.09877 [hep-ph]].
20. A. Belyaev, E. Bertuzzo, C. Caniu Barros, O. Eboli, G. Grilli Di Cortona, F. Iocco and A. Pukhov,  
 “Interplay of the LHC and non-LHC Dark Matter searches in the Effective Field Theory approach,”  
 Phys. Rev. D **99** (2019) no.1, 015006 doi:10.1103/PhysRevD.99.015006 [arXiv:1807.03817 [hep-ph]].
  21. H. Beauchesne, E. Bertuzzo, G. Grilli Di Cortona and Z. Tabrizi,  
 “Collider phenomenology of Hidden Valley mediators of spin 0 or 1/2 with semivisible jets,”  
 JHEP **08** (2018), 030 doi:10.1007/JHEP08(2018)030 [arXiv:1712.07160 [hep-ph]].
  22. M. Arteaga, E. Bertuzzo, Y. F. Perez-Gonzalez and R. Zukanovich Funchal,  
 “Impact of Beyond the Standard Model Physics in the Detection of the Cosmic Neutrino Background,”  
 JHEP **09** (2017), 124 doi:10.1007/JHEP09(2017)124 [arXiv:1708.07841 [hep-ph]].
  23. E. Bertuzzo, C. J. Caniu Barros and G. Grilli di Cortona,  
 “MeV Dark Matter: Model Independent Bounds,”  
 JHEP **09** (2017), 116 doi:10.1007/JHEP09(2017)116 [arXiv:1707.00725 [hep-ph]].
  24. E. Bertuzzo, P. A. N. Machado, Z. Tabrizi and R. Zukanovich Funchal,  
 “A Neutrinophilic 2HDM as a UV Completion for the Inverse Seesaw Mechanism,”  
 JHEP **11** (2017), 004 doi:10.1007/JHEP11(2017)004 [arXiv:1706.10000 [hep-ph]].
  25. E. Bertuzzo, P. A. N. Machado, Y. F. Perez-Gonzalez and R. Zukanovich Funchal,  
 “Constraints from Triple Gauge Couplings on Vectorlike Leptons,”  
 Phys. Rev. D **96** (2017) no.3, 035035 doi:10.1103/PhysRevD.96.035035 [arXiv:1706.03073 [hep-ph]].
  26. H. Beauchesne, E. Bertuzzo and G. Grilli di Cortona,  
 “Constraints on the relaxion mechanism with strongly interacting vector-fermions,”  
 JHEP **08** (2017), 093 doi:10.1007/JHEP08(2017)093 [arXiv:1705.06325 [hep-ph]].
  27. E. Bertuzzo, F. F. Deppisch, S. Kulkarni, Y. F. Perez Gonzalez and R. Zukanovich Funchal,  
 “Dark Matter and Exotic Neutrino Interactions in Direct Detection Searches,”  
 JHEP **04** (2017), 073 doi:10.1007/JHEP04(2017)073 [arXiv:1701.07443 [hep-ph]].
  28. E. Bertuzzo, P. A. N. Machado and M. Taoso,  
 “Diphoton excess in the 2HDM: Hastening towards instability and the nonperturbative regime,”  
 Phys. Rev. D **94** (2016) no.11, 115006 doi:10.1103/PhysRevD.94.115006 [arXiv:1601.07508 [hep-ph]].
  29. D. Bečirević, E. Bertuzzo, O. Sumensari and R. Zukanovich Funchal,  
 “Can the new resonance at LHC be a CP-Odd Higgs boson?,”  
 Phys. Lett. B **757** (2016), 261-267 doi:10.1016/j.physletb.2016.03.073 [arXiv:1512.05623 [hep-ph]].

30. E. Bertuzzo, Y. F. Perez G., O. Sumensari and R. Zukanovich Funchal,  
“Limits on Neutrinophilic Two-Higgs-Doublet Models from Flavor Physics,”  
JHEP **01** (2016), 018 doi:10.1007/JHEP01(2016)018 [arXiv:1510.04284 [hep-ph]].
31. G. Ricciardi, A. Arbey, E. Bertuzzo, A. Carmona, R. Dermisek, T. Huber, T. Hurth,  
Y. Grossman, J. Kersten and E. Lunghi, *et al.*  
“Flavour, Electroweak Symmetry Breaking and Dark Matter: state of the art and  
future prospects,”  
Eur. Phys. J. Plus **130** (2015) no.10, 209 doi:10.1140/epjp/i2015-15209-y [ar-  
Xiv:1507.05029 [hep-ph]].
32. A. Andreazza, M. Anselmino, P. Azzi, W. Baldini, R. Barbieri, F. Bedeschi, E. Ber-  
tuzzo, C. Biino, M. Bochicchio and W. Bonivento, *et al.*  
“What Next: White Paper of the INFN-CSN1,”  
Frascati Phys. Ser. **60** (2015), 1-302
33. E. Bertuzzo and C. Frugiuele,  
“Natural SM-like 126 GeV Higgs boson via nondecoupling D terms,”  
Phys. Rev. D **93** (2016) no.3, 035019 doi:10.1103/PhysRevD.93.035019 [arXiv:1412.2765  
[hep-ph]].
34. E. Bertuzzo, C. Frugiuele, T. Gregoire and E. Ponton,  
“Dirac gauginos, R symmetry and the 125 GeV Higgs,”  
JHEP **04** (2015), 089 doi:10.1007/JHEP04(2015)089 [arXiv:1402.5432 [hep-ph]].
35. E. Bertuzzo,  
“SUSY after LHC8: a brief overview,”  
EPJ Web Conf. **60** (2013), 18001 doi:10.1051/epjconf/20136018001 [arXiv:1307.0318  
[hep-ph]].
36. E. Bertuzzo, P. A. N. Machado and R. Z. Funchal,  
“Neutrino Mass Matrix Textures: A Data-driven Approach,”  
JHEP **06** (2013), 097 doi:10.1007/JHEP06(2013)097 [arXiv:1302.0653 [hep-ph]].
37. E. Bertuzzo, P. A. N. Machado and R. Zukanovich Funchal,  
“Can New Colored Particles Illuminate the Higgs?,”  
JHEP **02** (2013), 086 doi:10.1007/JHEP02(2013)086 [arXiv:1209.6359 [hep-ph]].
38. L. G. Almeida, E. Bertuzzo, P. A. N. Machado and R. Zukanovich Funchal,  
“Does  $H \rightarrow \gamma\gamma$  Taste like vanilla New Physics?,”  
JHEP **11** (2012), 085 doi:10.1007/JHEP11(2012)085 [arXiv:1207.5254 [hep-ph]].
39. E. Bertuzzo, T. S. Ray, H. de Sandes and C. A. Savoy,  
“On Composite Two Higgs Doublet Models,”  
JHEP **05** (2013), 153 doi:10.1007/JHEP05(2013)153 [arXiv:1206.2623 [hep-ph]].
40. E. Bertuzzo and C. Frugiuele,  
“Fitting Neutrino Physics with a  $U(1)_R$  Lepton Number,”  
JHEP **05** (2012), 100 doi:10.1007/JHEP05(2012)100 [arXiv:1203.5340 [hep-ph]].

41. E. Bertuzzo and M. Farina,  
 “Detecting the Higgs boson(s) in  $\lambda$ SUSY,”  
 Eur. Phys. J. C **72** (2012), 2054 doi:10.1140/epjc/s10052-012-2054-6 [arXiv:1112.2190 [hep-ph]].
42. E. Bertuzzo,  
 “On the MSSM with hierarchical squark masses and a heavier Higgs boson,”  
 Nuovo Cim. C **034S1** (2011), 15-21 doi:10.1393/ncc/i2011-11010-1 [arXiv:1106.3253 [hep-ph]].
43. E. Bertuzzo and M. Farina,  
 “Higgs boson signals in  $\lambda$ SUSY with a Scale Invariant Superpotential,”  
 Phys. Rev. D **85** (2012), 015011 doi:10.1103/PhysRevD.85.015011 [arXiv:1105.5389 [hep-ph]].
44. E. Bertuzzo,  
 “Supersymmetric Models with a hierarchical squark spectrum and a heavy Higgs boson,”
45. E. Bertuzzo, M. Farina and P. Lodone,  
 “On the QCD corrections to  $\Delta F=2$  FCNC in the Supersymmetric SM with hierarchical squark masses,”  
 Phys. Lett. B **699** (2011), 98-101 doi:10.1016/j.physletb.2011.03.062 [arXiv:1011.3240 [hep-ph]].
46. R. Barbieri, E. Bertuzzo, M. Farina, P. Lodone and D. Zhuridov,  
 “Minimal Flavour Violation with hierarchical squark masses,”  
 JHEP **12** (2010), 070 [erratum: JHEP **02** (2011), 044] doi:10.1007/JHEP12(2010)070 [arXiv:1011.0730 [hep-ph]].
47. E. Bertuzzo, P. Di Bari and L. Marzola,  
 “The problem of the initial conditions in flavoured leptogenesis and the tauon  $N_2$ -dominated scenario,”  
 Nucl. Phys. B **849** (2011), 521-548 doi:10.1016/j.nuclphysb.2011.03.027 [arXiv:1007.1641 [hep-ph]].
48. R. Barbieri, E. Bertuzzo, M. Farina, P. Lodone and D. Pappadopulo,  
 “A Non Standard Supersymmetric Spectrum,”  
 JHEP **08** (2010), 024 doi:10.1007/JHEP08(2010)024 [arXiv:1004.2256 [hep-ph]].
49. E. Bertuzzo, P. Di Bari, F. Feruglio and E. Nardi,  
 “Flavor symmetries, leptogenesis and the absolute neutrino mass scale,”  
 JHEP **11** (2009), 036 doi:10.1088/1126-6708/2009/11/036 [arXiv:0908.0161 [hep-ph]].

## 2.2 Finanziamenti vinti

- Progetto di ricerca tematico FAPESP (con I. Albuquerque e E. Moura Santos), 2023-2028, R\$ 879.831,25 + \$ 317.087,90
- Borsa per produttività nella ricerca CNPq, livello 2 2021-2023, R\$ 39.600,00

- Borsa per passare un anno facendo ricerca presso il King's College (Londra) 2020, US\$ 32.534
- Progetto di ricerca tematico FAPESP (con G. Burdman, O. Éboli e R. Zukanovich-Funchal), 2019-2025, R\$ 1.005.943,94
- Borsa per produttività nella ricerca CNPq, livello 2 2018-2020, R\$ 39.600,00
- Borsa di ricerca FAPESP per giovani ricercatori 2016-2020, R\$ 72.360,79
- Borsa per produttività nella ricerca CNPq, livello 2 2015-2017, R\$ 39.600,00

FAPESP è una agenzia di supporto alla ricerca dello stato di Sao Paulo (Brasile), mentre CNPq è una agenzia del governo federale brasiliano.

## 2.3 Seminari e lezioni

Ho dato 46 seminari in varie istituzioni in differenti stati, tra cui Italia, Stati Uniti, Regno Unito, Francia, Germania, Spagna, Polonia, Argentina, Brasile.

1. *Sterile dipoles*, seminar at the University of Padova, Italy (June 2024);
2. *Sterile dipoles*, seminar at the University of Durham, UK (May 2024);
3. *Sterile dipoles*, seminar at the University of Bologna, Italy (February 2024);
4. *The landscape of Dark Matter's models*, invited lecture at the "Multimessenger school", Principia Institute, Sao Paulo (May 2023);
5. *Inelastic dark sectors at the lifetime frontier*, invited talk at the "Workshop on the nature of Dark Matter", ICTP-SAIFR (November 2022);
6. *What is our Universe made of?*, colloquium at the University of Modena and Reggio Emilia, Italy (May 2022);
7. *The physics of Dark Matter*, summer lecture at the Physics institute of São Paulo, Brazil (March 2022);
8. *Relaxion Physics*, workshop SILAFAE XII3/4, Brasil (November 2021);
9. *Dark photon bounds in the dark EFT*, seminar at Fermilab, Chicago, USA (October 2021);
10. *Portals to the dark world*, colloquium at the Physics Institute of the University of São Paulo (September 2021);
11. *Neutrino oscillations the on-shell way*, seminar at the "NuCo 2021" workshop (July 2021);

12. *Neutrino oscillations without mass diagonalization nor Lagrangians*, seminar at the "PhenoBR" workshop (June 2021);
13. *Where in the world are all the other particles?*, seminar at the "1<sup>st</sup> International Meeting on Theoretical and Applied Physics - IMTAP", National University of Callao, Peru (May 2021);
14. *Coherent scattering: a window into neutrino and dark matter physics*, seminar at the University of Wroklaw, Poland (March 2021);
15. *Can gravitational waves tell us anything about the hierarchy problem?*, seminar at the department of Mathematical Physics of the University of São Paulo, Brazil (September 2020);
16. *Introduction to the dark arts*, colloquium at the department of physics of the University of Modena, Italy (June 2020);
17. *Aspects of Dark Sectors: Dark Matter and Neutrino Mass Generation*, seminar at King's College London, United Kingdom (April 2020);
18. *Light dark sectors and neutrino mass generation*, seminar at the "Neples 2019" workshop in Seoul, South Korea (September 2019);
19. *Fear of the Dark (Matter)*, colloquium at the Federal University ABC, Santo Andre, Brazil (July 2019);
20. *Dark Matter model building*, lectures at the Dark Matter Flash School, ICTP-SAIFR (November 2018);
21. *The dark side of the forces*, colloquium at the University of Campinas, Campinas, Brazil (September 2018);
22. *Dark Matter: where do we stand*, colloquium at PUC, Rio de Janeiro, Brazil (September 2018);
23. *BMS: future directions*, seminar at the workshop "PhenoEXP 2018, Buenos Aires, Argentina (May 2018);
24. *Proposals for New Searches and Unexplored Signatures*, workshop "LHC Chapter II", Natal (RN) (November 2017);
25. *Dark Matter: past, present and future*, Congresso Paulo Leal de Física Teórica, ICTP SAIFR (October 2017);
26. *Dark matter: new challenges, new avenues*, Colloquium DFN, IFUSP (August 2017);
27. *Fear of the Dark (Matter)*, Colloquium IFUSP (May 2017);
28. *The Standard Model of Particle Physics*, lectures at the XIX Swieca School (Marelias, Brasil) (February 2017);
29. *Dark Matter and Exotic Neutrino Interactions in Direct Detection Searches*, Jussieu - Paris, France (February 2017);

30. *SUSY naturalness facing the Higgs couplings*, IFT/ICTP-SAIFR (June 2015);
31. *Hiding Supersymmetry Naturalness from the Higgs Coupling Measurements*, Colloquium DFMA, IFUSP (February 2015);
32. *Naturally going beyond the MSSM: non-decoupling D-terms*, IPHTH Saclay - France (December 2014);
33. *Supersymmetry and naturalness*, workshop "Flavour, Electroweak Symmetry Breaking and Dark Matter: state of the art and future prospects", Capri (May 2014);
34. *Dirac gauginos, R symmetry and the 125 GeV Higgs*, IFAE Barcelona, Spain (November 2013);
35. *Composite Two Higgs doublet models*, WIN workshop, Natál (September 2013);
36. *Higgs to diphoton and vanilla new Physics*, Planck 2013 - Bonn (Germany) (maio 2013);
37. *SUSY after LHC8: a brief overview*, LHCP 2013, Barcelona (May 2013);
38. *Can vanilla new physics illuminate the Higgs boson?*, GDR-Terascale, Paris (November 2012);
39. *Vanilla new Physics facing the Higgs boson*, University Roma "La Sapienza" (October 2012);
40. *Vanilla new Physics facing the Higgs boson*, SISSA - Trieste (October 2012);
41. *New physics in  $h \rightarrow \gamma\gamma$ ?*, Montpellier University, France (September 2012);
42. *Flavor symmetries*, GDR-neutrinos, Paris (May 2012);
43. *Fitting neutrino physics with a  $U(1)_R$  lepton number*, Rencontres de Physique des Particules, Montpellier (May 2012);
44. *The problem of initial conditions in flavoured leptogenesis*, Planck 2011 - Lisbon (June 2011);
45. *The problem of initial conditions in flavoured leptogenesis*, Scuola Normale Superiore, Pisa (April 2011);
46. *A non-standard supersymmetric spectrum*, University of Padua, Italy (June 2010).

## 2.4 Postdocs

Dopo essermi unito al gruppo di ricerca dell'Università di Sao Paulo (Brasile), ho supervisionato assieme agli altri membri del gruppo i seguenti postdoc: Chee Sheng Fong, Boris Panes, Giovanni Grilli di Cortona, Hugues Beauchesne, Zahra Tabrizi, Peter Reimitz e Thathagata Gosh.

## 2.5 Organizzazione di eventi internazionali

- **2022:**
  - *Program on “New Direction in Particle Physics* (September 2022, organizer with G. Burdman, C. Csáki and C. Grojean), [link](#);
- **2020:**
  - *Second Joint ICTP-ICTP SAI FR School of Particle Physics* (June 2020, organizer with J. Elias Miró, Rogério Rosenfeld and G. Villadoro), [link](#);
  - *Third South American Dark Matter Workshop* (November 2020, organizer with I. Albuquerque and F. Iocco), [link](#);
- **2019:**
  - *XX Swieca School of Particles and Fields* (February 2019, organizer with H. Nastase and T. Pereira), [link](#);
- **2018:**
  - *Second South American Dark Matter Workshop* (November 2018, organizer with F. Iocco and M. Vecchi), [link](#);
  - *Dark Matter Flash School* (November 2018, organizer with F. Iocco and lecturer), [link](#);
  - *First Joint ICTP - ICTP SAI FR School of Particle Physics* (June 2018, organizer with E. Pontón, A. Romanino and G. Villadoro), [link](#);
- **2017:**
  - *South American Dark Matter Workshop* (May 2017, organizer with F. Iocco and M. Vecchi), [link](#).

## 2.6 Attività di reviewer

Dal 2011 sono un reviewer per le seguenti riviste: Journal of High Energy Physics, European Physical Journal C, Advances in High Energy Physics, Nuclear Physics B.

# 3 Studenti

## 3.1 Brasile

Elenco gli studenti che ho supervisionato all’Università di São Paulo dal 2015, assieme alle borse che sono state ottenute per finanziare la loro ricerca. FAPESP è una agenzia di finanziamento alla ricerca dello stato di Sao Paulo (Brasile), mentre CNPq è una agenzia dello stato federale brasiliano.

- **Iniciação científica** (equivalente alla tesi di laurea triennale)
  1. Artur de Santiago Camoleze, *Uma introdução à teoria quântica de campos* (Introduction to Quantum Field Theory), 2022;

2. Pedro Henrique Trajano Lemos Tredezini, *Mecânica Quântica e Relatividade: uma abordagem avançada* (Quantum Mechanics and Relativity: an advanced approach), 2019 (FAPESP 2019/10902-8);
3. Milena Bastos Albino, *Teorias de gauge quânticas* (Quantum gauge theories), 2019 (FAPESP 2019/02316-1);
4. Matheus Martines de Azevedo da Silva, *Uma introdução à teoria quântica de campos* (Introduction to Quantum Field Theory), 2019 (FAPESP 2018/22717-8)
5. Fernanda Lima Matos, *Introdução à Física da Matéria Escura* (Introduction to the Physics of Dark Matter), 2018 (FAPESP 2018/09895-4);
6. Gabriel Massoni Salla, *Grupos de simetria e Teoria Quântica de Campos* (Symmetry groups and Quantum Field Theory), 2017 (FAPESP 2017/09020-5);
7. Fernanda Hüller Nascimento, *Introdução à Teoria de Campos* (Introduction to Quantum Field Theory), 2017 (FAPESP 2016/18947-2);
8. Naim Comar, *Introdução à Teoria de Campos* (Introduction to Quantum Field Theory), 2016.

- **Mestrado** (equivalente alla laurea magistrale)

1. Beatriz Sayuri Duval Hashimoto, *Phenomenology of the dipolar coupling between Dark Matter and Dark Photon*, 2022-2024;
2. Tommaso Sassi, *Vector Dark Matter in Effective Field Theories* (co-supervisor – University of Modena and Reggio Emilia, Italy) 2021;
3. Pedro Henrique Trajano Lemos Tredezini, *Phenomenology of Vector Dark Matter*, 2021-2023 (CPNq);
4. Fernanda Lima Matos, *Study of the abundance of light dark matter in the early universe*, 2021-2023 (FAPESP, 2020/14811-4 );
5. Lucas Magno Dantas Ramos, *Coherent Elastic Neutrino-Nucleus Scattering: bounds on light  $Z'$  models*, 2020-2022 (CNPq);
6. Gabriel Massoni Salla, *Física Além Do Modelo Padrão: desafios teóricos e fenomenológicos - Modelos de Higgs composto e UV completions*, 2019–2021 (FAPESP, 2018/23679-2);
7. Naim Comar, *Relaxion Physics: a new solution to the Hierarchy problem*, 2017–2019 (CNPq);
8. Fernanda Hüller Nascimento, *Precision measurements: past, present and future*, 2018–2020 (FAPESP 2017/27129-4);
9. Juan Pablo Hoyos Daza, *Models of Composite Higgs*, 2015–2017 (CNPq);
10. Victor M. M. Alborno, *Supersymmetry with an extended gauge symmetry*, 2015–2017 (CNPq).

- **Dottorato**

1. Lucas Magno Dantas Ramos, *Simplified Dark Matter models at the LHC*, 2022-2026 (CNPq), cosupervision with André Lessa (UFABC, Brazil);

2. Gabriel Massoni Salla, *Aspects of the neutrino-Dark Matter connection*, 2020-2024 (FAPESP 2020/14713-2);
3. Cristian J. C. Barros, *Supersymmetric models with Dirac Gauginos*, 2015–2019 (CNPq);
4. Martín Arteaga Tupia, *Relaxion Physics and its phenomenological consequences*, 2017–2021 (CNPq).

### 3.2 Italia

Elenco di seguito gli studenti supervisionati presso UNIMORE, Italia.

- Laurea triennale

1. Sara Covella, *Introduzione alla cosmologia*, 2023;
2. Nicolò Becchi, *Introduzione all'inflazione cosmologica*, 2023;
3. Michele Silvestri, *Introduzione alla fisica della materia oscura*, 2023;

- Laurea magistrale

1. Tommaso Sassi, *Vector dark matter effective field theory*, 2022.

## 4 Informazioni aggiuntive

- Inspire database (con l'elenco aggiornato delle pubblicazioni): [http://inspirehep.net/search?ln=en&p=f+a+bertuzzo&of=hb&action\\_search=Search&sf=earliestdate&so=d](http://inspirehep.net/search?ln=en&p=f+a+bertuzzo&of=hb&action_search=Search&sf=earliestdate&so=d);
- website: [fmatrm.if.usp.br/~enrico](http://fmatrm.if.usp.br/~enrico), <http://personale.unimore.it/Rubrica/dettaglio/ebertuzzo>;