Curriculum Vitae

Enrico Bertuzzo

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Contents

1 Positions

I am currently an associate Professor at the department of "Scienze Fisica, Informatiche e Matematiche" at the University of Modena and Reggio Emilia (Italy).

Year	Activity	Institution
01/09/2023-present	Associate Professor	Unimore
10/01/2019-present	Associate Professor	USP, Instituto de Física
29/02/2015-09/01/2019	Adjoint Professor	USP, Instituto de Física
2013-2014	Postdoc	IFAE, Barcelona
2011-2013	Postdoc	IPHT, CEA-Paris
2009-2011	PhD	Scuola Normale Superiore, Pisa
2007-2008	Master	University of Padua
2002-2006	Undergrad	University of Padua

PhD supervisor: Prof. Riccardo Barbieri (Scuola Normale Superiore, Pisa).
MSc supervisor: Prof. Ferruccio Feruglio (University of Padua).

2 Research

2.1 Scientific production

This is the list of my published papers. **In my field of research the authors' names are listed in alphabetical order.**

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)2
(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 [arXiv:1507.05029 [hep-ph]].

32. A. Andreazza, M. Anselmino, P. Azzi, W. Baldini, R. Barbieri, F. Bedeschi, E. Bertuzzo, 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 $H \to \gamma\gamma$ 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 λSUSY,"
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 Grants won

- Projeto Temático FAPESP (with I. Albuquerque and E. Moura Santos),
2023-2028, R$ 879.831,25 + $ 317.087,90

- CNPq fellowship in research productivity, level 2 (Brazilian Fellowship)
2021-2023, R$ 39.600,00

- Fellowship to spend one year doing research at King's College, London
  2020, US$ 32.534
- Projeto Temático FAPESP (with G. Burdman, O. Éboli and R. Zukanovich-Funchal),
  2019-2025, R$ 1.005.943,94
- CNPq fellowship in research productivity, level 2 (Brazilian Fellowship)
  2018-2020, R$ 39.600,00
- Auxílio à Pesquisa *Jovem Pesquisador* FAPESP (Brazilian Fellowship)
  2016-2020, R$ 72.360,79
- CNPq fellowship in research productivity, level 2 (Brazilian fellowship)
  2015-2017, R$ 39.600,00

I have also successfully applied for a number of fellowships for my students (see Sec. 3). FAPESP is an agency based in the São Paulo state, whereas CNPq is a federal agency.

2.3 Seminars and lectures

I have given 46 seminars and lectures at institutions from a number of different countries, including Italy, United States, United Kingdom, France, Germany, Spain, Poland, Argentina and, of course, Brazil.

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 "1st 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 Seul, 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 (Maresias, 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*, IPTH 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 $h \to \gamma\gamma$?*, 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

Since joining the particle physics group at the University of São Paulo I have co-supervised the following postdocs: Chee Sheng Fong, Boris Panes, Giovanni Grilli di Cortona, Hugues Beauchesne, Zahra Tabrizi, Peter Reimitz and Thathagata Gosh.

2.5 Organization of international events

I have organized various events of international reach, with the participation of researchers from a number of renowned institutions including the University of Oxford, Cornell University, Harvard University, Fermilab, University of Maryland, King's College London and Amsterdam University, among others.

- **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 SAIFR 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 SAIFR 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 Reviewing activities

Since 2011 I am a reviewer for the following journals: Journal of High Energy Physics, European Physical Journal C, Advances in High Energy Physics, Nuclear Physics B.

3 Students

3.1 Brasil

I list below the students I have supervised since 2015 together with the fellowships won. FAPESP is an agency based in the São Paulo state, whereas CNPq is a federal agency.

- **Iniciação científica** (equivalent to "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 bordagem 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** (equivalent to "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. Albornoz, *Supersymmetry with an extended gauge symmetry*, 2015–2017 (CNPq).

- **PhD**

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 Italy

- 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 Outreach

During the last few years I have also devoted a part of my time to outreach activities. While at the University of São Paulo, I organized the weekly series of Colloquia "Convite à Física" (An Invitation to Physics) at the Physics Institute of the University of São Paulo. These seminars are aimed at putting students in contact with modern research areas in an accessible way. The outreach seminars available online have almost 35k views.

Additionaly, I have given the following seminars:

- *Le onde gravitazionali*, outreach seminar for high school teachers (February 2024);
- *C'era una volta, tanto tempo fa*, outreach seminar for high school students (February 2024);
- *La moderna cosmologia, tra inflazione, materia scura, onde gravitazionali e altro*, outreach seminar in the series "Incontri di Fisica teorica" organized by the University of Modena, Italy (April 2021);
- *O lado escuro da(s) força(s)*, outreach seminar at the University of São Paulo, Brazil (October 2020);
- *Drops of physics*: short outreach videos for the Youtube channel of the Institute of Physics of the University of São Paulo (2019);
- Participation in the Pint of Science Brazil, São Paulo, Brazil (May 2019);
- *The dark side of the force(s)*, outreach seminar at the University of Uberladia, Brazil (September 2018);

- *O lado escuro do universo*, outreach seminar for the series "Física para todos" (Physics for everybody), São Paulo, Brazil (September 2019);
- *The dark side of the force(s)*, outreach seminar for the Pint of Science event, São Paulo, Brazil (May 2018);

5 More information

- Inspire database (with updated publications): http://inspirehep.net/search?ln=en&p=f+a+bertuzzo&of=hb&action_search=Search&sf=earliestdate&so=d;
- personal webpage: http://personale.unimore.it/Rubrica/dettaglio/ebertuzzo;
- Contact: enrico.bertuzzo@unimore.it