

# Pedro A. N. Machado

## CURRICULUM VITAE

August 16, 2019

ADDRESS: Fermi National Accelerator Laboratory  
Theoretical Physics Group, WH3W, MS 106  
P.O. Box 500 Kirk Road and Pine Street  
Batavia, Illinois, 60510-5011, USA  
LANDLINE: +1 (630)840-3752  
MOBILE: +1 (630)335-1153  
EMAIL: [pmachado@fnal.gov](mailto:pmachado@fnal.gov)

## CURRENT EMPLOYMENT

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TITLE: Associate Scientist  
EMPLOYER: Fermi National Accelerator Laboratory, USA  
DATES: from 12/2017 to present

## PREVIOUS EMPLOYMENT

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TITLE: Research Associate (postdoctoral position)  
AFFILIATION: Fermi National Accelerator Laboratory, USA  
DATES: from 10/2016 to 12/2017

TITLE: Postdoctoral fellow  
AFFILIATION: IFT, Universidad Autonoma de Madrid, Spain  
DATES: from 10/2013 to 09/2016

## UNIVERSITY EDUCATION

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2009-2013 | Ph.D. at the University of São Paulo, São Paulo, Brazil  
Supervisor: Renata Zukanovich Funchal  
Thesis: Topics in neutrino physics  
Observation: During my Ph.D. I spent 6 months at Fermilab, 18 months at CEA-Saclay and 3 months at CERN

2007-2009 | Master Student at the University of São Paulo, São Paulo, Brazil  
Supervisor: Renata Zukanovich Funchal  
Thesis: Formalism development for neutrino evolution in the early universe

2003-2007 | Bachelor in Physics at the Federal University of Ceará, Fortaleza, Brazil

## DISTICTIONS

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- 2019 [DOE Early Career Award: The Next Revolution in Neutrino Physics](#). Prize totalizing \$2.5M.
- 2014 Honoric mention: José Leite Lopes Prize of the Brazilian Physical Society for the Best Brazilian Thesis in Physics 2013

OCT-DEC 2012	Marie Curie Ph.D. fellowship (UNILHC-ITN) at the CERN theory group, Geneva, Switzerland
2011-2012	Marie Curie Ph.D. fellowship (UNILHC-ITN) at IPhT-CEA, Saclay, France
2010	Student at the Program for Latin American Students 2010, Fermilab, Batavia IL, USA
2010-2013	Ph.D. scholarship from FAPESP funding agency
2009	Ph.D. scholarship from CAPES funding agency
2007-2009	Master scholarship from FAPESP funding agency
2004-2007	Undergraduate scholarship from FUNCAP funding agency

## SUMMARY OF PUBLICATIONS

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Citeable papers: 54

Number of citations: 2,616

Published papers: 37

Number of citations: 1,429

Source: INSPIRE-HEP ([P.A.N.Machado.1](#)), as of August 16, 2019

## SERVICE

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Member of the DUNE collaboration

Member of the Scientific Advisory Board of the [Neutrino Theory Network](#)

Organizer of the SBN-Theory working group

Organizer of the [Theory Seminar Series](#) at Fermilab, USA

Organizer of the “Pheno Coffee” journal club 2013-2016 at the IFT, Madrid

Tutor at the [Invisibles 2015 School](#), Madrid, Spain

Tutor at the [Invisibles 2014 School](#), Paris, France

Referee for PRL, PRD, JHEP, EPJC, and PLB

## ORGANIZATION OF EVENTS

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**2019** **Organizer:** [12th International Neutrino Summer School 2019](#), August 5-16, 2019, at Fermilab, IL, USA

**Organizer:** [Topics in Cosmic Neutrino Physics 2019](#), October 9-11, 2019, at Fermilab, IL, USA

**Organizer:** [Neutrino Theory Network workshop on Neutrino Non-Standard Interactions](#), May 29-31, 2019, at Washington U. in St. Louis, MI, USA

**Convener:** Neutrinos parallel session, [SUSY 2019](#), May 20-24th, 2019, at Corpus Christi, TX, USA

**2018** **Local organizer:** [PONDD 2018](#) at Fermilab, USA

**Convener:** Particle Physics working group, [TeVPA 2018](#) at Berlin, Germany

**Convener:** WG5 (Neutrinos beyond PMNS), [NUFACT 2018](#) at Virginia Tech, USA

**2017** **Convener:** Neutrino theory working group, [WIN 2017](#) at UC-Irvine, USA

**Organizer:** [Neutrino University summer lectures 2017](#) at Fermilab, USA

**2015** **Local organizer:** [Invisibles 2015 Workshop](#) at the IFT, Madrid, Spain

Local organizer: [Invisibles 2015 School](#) at the IFT, Madrid, Spain

## OUTREACH ACTIVITIES

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Lecturer: [Saturday Morning Physics 2018](#) at Fermilab, USA

Lecture “*Enrico Fermi and Particle Physics*,” 2018, University of São Paulo, Brazil

Lecture at the Brazilian high school Colégio da Polícia Militar do Ceará, 2018, Fortaleza, Brazil

Organization of two days of the [Invisibles 2015 Workshop](#) at the [Thyssen-Bornemisza Museum](#) at Madrid, Spain

## STUDENTS

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2016 Elena Perdomo (M.Sc., now PhD student at University of Southampton)

2016 Javier Alonso (M.Sc., now PhD student at the IFT-Madrid)

## LANGUAGES

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PORTUGUESE: Native language

ENGLISH: Fluent

SPANISH: Advanced

FRENCH: Intermediate

ITALIAN: Basic

## COMPUTER SKILLS

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Languages: C, FORTRAN, PYTHON, Mathematica

Other: MadGraph, Pythia, MultiNEST, Micromegas, CalcHEP, FeynCalc, FeynRules, FeynArts, CERNLIB, GSL, GLOBES, LaTeX, ...

# Invited talks

Pedro A. N. MACHADO

## INVITED TALKS AT EVENTS

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**Event:** [Dark Matter and Weak Interactions \(DARKWIN\) Conference](#)  
**Location:** Natal, Brazil  
**Date:** September 2019  
**Plenary talk:** New physics at the SBN program

**Event:** [PINS 2019](#)  
**Location:** SLAC, CA, USA  
**Date:** July 2019  
**Plenary talk:** Sterile neutrinos: hints and global fits

**Event:** [SBND collaboration meeting](#)  
**Location:** Ann Harbor, MI, USA  
**Date:** June 2019  
**Plenary talk:** Introduction to BSM in SBND

**Event:** [Fermilab Users Meeting](#)  
**Location:** Fermilab, USA  
**Date:** June 2019  
**Plenary talk:** Theoretical challenges in neutrino physics

**Event:** [SUSY 2019](#)  
**Location:** Corpus Christi, TX, USA  
**Date:** May 2019  
**Plenary talk:** Sterile Neutrinos

**Event:** [Nuclear and Particle Theory for Accelerator Neutrino Experiments](#)  
**Location:** Fermilab, IL, USA  
**Date:** May 2019  
**Talk:** Neutrino-nucleus interactions from a neutrino phenomenology point of view

**Event:** [DCPIHEP 2019 Workshop: Neutrino mass, mixing, and BSM physics](#)  
**Location:** Comala, Colima, Mexico  
**Date:** January 2019  
**Plenary talk:** Theory and phenomenology of time dependent neutrino masses

**Event:** [NP-HEP dialog on neutrino physics](#)  
**Location:** Jefferson Lab, USA  
**Date:** November 2018  
**Plenary talk:** The needs of the HEP Neutrino Theory; searching for new physics

**Event:** [SBND Collaboration meeting](#)  
**Location:** Fermilab, USA  
**Date:** September 2018  
**Plenary talk:** SBN-Theory

**Event:** [CIPANP 2018](#)

Location: Palm Springs, CA, USA  
Date: June 2018  
**Plenary talk:** Neutrino oscillations

**Event:** QUePCO 2017  
Location: Santa Fe, NM, USA  
Date: August 2017  
**Plenary talk:** Some aspects of neutrino BSM

**Event:** DPF 2017  
Location: Fermilab, IL, USA  
Date: August 2017  
**Plenary talk:** Recent highlights from neutrino theory

**Event:** [Weak Interactions and Neutrinos 2017 \(WIN 2017\)](#)  
Location: Irvine, CA, USA  
Date: June 2017  
**Plenary talk:** Working Group Summary: Neutrino Physics (Theory)

**Event:** [Precision Investigation of the Neutrino Sector \(PINS 2017\)](#)  
Location: SLAC, CA, USA  
Date: March 2017  
**Plenary talk:** Neutrinos and New Flavor Physics

**Event:** [Crossroads of NeutrinoPhysics program](#)  
Location: Mainz, Germany (MITP)  
Date: July 2015  
Talk: Non-standard neutrino interactions

**Event:** PPC 2015  
Location: Deadwood, SD, USA  
Date: July 2015  
**Plenary talk:** Sterile neutrinos

**Event:** CETUP 2015  
Location: Deadwood, SD, USA  
Date: July 2015  
Talk: Non-standard neutrino interactions

**Event:** [Invisibles 2015 Workshop](#)  
Location: Madrid, Spain  
Date: June 2015  
Talk: Global constraints on vector-like effective WIMP interactions

**Event:** [Present and Future Neutrino Physics](#)  
Location: Santa Barbara, CA, USA  
Date: November 2014  
Talk: Perspective to measure CP phase in coming years  
Discussion: Beyond Standard Model physics with neutrinos

**Event:** [Neutrino Oscillation Workshop 2014 \(NOW\)](#)  
Location: Otranto, Italy  
Date: September 2014  
Talk: Learning about the CP phase in the next 10 years

**Event:** [ICFA Neutrino European Meeting](#)  
**Location:** Paris, France  
**Date:** January 2014  
**Plenary talk:** Sterile neutrino in the global picture

**Event:** [Fundamental Physics, CMB and LSS in the light of the Planck satellite and DES](#)  
**Location:** Madrid, Spain  
**Date:** October 2013  
**Plenary talk:** Sterile neutrino oscillations: the global picture

**Event:** [XXIV Workshop on Weak Interactions and Neutrinos \(WIN\)](#)  
**Location:** Natal, Brazil  
**Date:** September 2013  
**Talk:** Sterile neutrino oscillations: the global picture

**Event:** [GDR Neutrino 2013](#)  
**Location:** Lyon, France  
**Date:** November 2013  
**Talk:** Sterile neutrino oscillations: the global picture

**Event:** [Invisibles 13 Workshop](#)  
**Location:** Durham, UK  
**Date:** July 2013  
**Talk:** What can be done for  $\delta_{CP}$  in the next 10 years?

**Event:** [Rencontre de Physique des Particules 2012](#)  
**Location:** Montpellier, France  
**Date:** May 2012  
**Talk:** Theta 13 after Daya Bay

**Event:** [Long-Baseline Neutrino Physics and Astrophysics](#)  
**Location:** Seattle, WA, USA (INT)  
**Date:** August 2010

## INVITED LECTURES

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**Event:** [Neutrino University summer lectures](#)  
**Location:** Fermilab, IL, USA  
**Date:** July 2019  
**Lecture:** Beyond the standard model physics with neutrino

**Event:** [2019 Undergraduate Lecture Series](#)  
**Location:** Fermilab, IL, USA  
**Date:** June 2019  
**Lecture:** Introduction to particle physics

**Event:** [XX Escola de Verao Jorge Andre Swieca de Particulas e Campos](#)  
**Location:** Campos do Jordao, Sao Paulo, Brazil  
**Date:** January 2019  
**Lecture:** Introduction to standard model

**Event:** [10th International Neutrino Summer School 2017](#)

Location: Fermilab, IL, USA  
Date: August 2017  
Lecture: Dirac and Majorana masses and neutrinos

## INVITED SEMINARS AT UNIVERSITIES AND LABORATORIES

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**Illinois Institute of Technology**  
Location: Chicago, IL, USA  
Date: February 2019  
**Colloquium:** Neutrinos: Challenges and Opportunities

**University of Delaware**  
Location: Newark, DE, USA  
Date: October 2018  
Talk: Has MiniBooNE observed the mechanism behind neutrino masses?

**Fermilab (Neutrino seminar series)**  
Location: Batavia, IL, USA  
Date: October 2018  
Talk: Has MiniBooNE observed the mechanism behind neutrino masses?

**Federal University of Ceará**  
Location: Fortaleza, CE, Brazil  
Date: August 2018  
Talk: Introdução à física de neutrinos

**Texas A&M**  
Location: College Station, TX, USA  
Date: April 2018  
Talk: Flavor gauge models below the Fermi scale

**Notredame University**  
Location: Notredame, IN, USA  
Date: April 2018  
Talk: Flavor gauge models below the Fermi scale

**University of Wisconsin-Madison**  
Location: Madison, WI, USA  
Date: Mar 2018  
Talk: Flavor gauge models below the Fermi scale

**University of Maryland**  
Location: University of Maryland, MA, USA  
Date: March 2018  
Talk: Distorted neutrino oscillations from ultralight dark matter

**Northwestern University**  
Location: Evanston, IL, USA  
Date: October 2017  
Talk: Neutrinos and light new physics

**Fermilab**  
Location: Batavia, IL, USA

Date: October 2017  
Talk: New physics with neutrino physics

**Fermilab (SBN meeting)**  
Location: Batavia, IL, USA  
Date: September 2017  
Talk: Large extra dimensions at SBN

**Penn State University**  
Location: State College, PA, USA  
Date: September 2017  
Talk: New physics with neutrinos

**PITT-PACC**  
Location: Pittsburgh, PA, USA  
Date: September 2017  
Talk: Neutrino theory: where do we stand and where are we going?

**Argonne National Laboratory**  
Location: Argonne, IL, USA  
Date: February 2017  
Talk: Flavor gauge models below the Fermi scale

**Virginia Tech**  
Location: Blacksburg, VA, USA  
Date: February 2017  
Talk: Neutrino Physics from dark matter experiments

**Los Alamos National Laboratory**  
Location: Los Alamos, NM, USA  
Date: February 2017  
Talk: Beyond Standard Neutrinos

**Fermilab**  
Location: Batavia, IL, USA  
Date: February 2017  
Talk: Flavor gauge models below the Fermi scale

**Oklahoma State University**  
Location: Stillwater, OK, USA  
Date: January 2017  
Talk: Beyond Standard Neutrinos

**LHC Results Forum**  
Location: Austin, TX, USA (online)  
Date: November 2016  
Talk: An update on the status of sterile neutrino constraints

**Instituto de Física, Universidade de São Paulo**  
Location: São Paulo, SP, Brazil  
Date: August 2016  
Talk: Neutrino physics in dark matter experiments

**SLAC Theory department**  
Location: Menlo Park, CA, USA



Date: October 2015  
 Talk: Beyond Standard Physics in Neutrino Experiments

**Centro de Analisis de Materiales, Universidade Autónoma de Madrid**  
 Location: Madrid, Spain  
 Date: March 2015  
 Talk: Particle Physics for Pedestrians

**Université Montpellier 2**  
 Location: Montpellier, France  
 Date: December 2014  
 Talk: One-loop bosonic effective Lagrangian for a dynamical Higgs

**Johannes Gutenberg University**  
 Location: Mainz, Germany  
 Date: July 2014  
 Talk: One-loop bosonic effective Lagrangian for a dynamical Higgs

**LPSC - CEA-Grenoble**  
 Location: Grenoble, France  
 Date: January 2014  
 Talk: What is new in neutrino physics?

**IFT - Universidad Autónoma de Madrid**  
 Location: Madrid, Spain  
 Date: September 2012  
 Talk: Does Higgs to gamma gamma taste like vanilla new physics?

**IFIC - Universitat de València**  
 Location: Valencia, Spain  
 Date: September 2012  
 Seminar: Does Higgs to gamma gamma taste like vanilla New Physics?

**Laboratori Nazionali del Gran Sasso**  
 Location: L'Aquila, Italy  
 Date: September 2012  
 Seminar: Does Higgs to gamma gamma taste like vanilla New Physics?

**Max Planck Institut für kernphysik - Heidelberg**  
 Location: Heidelberg, Germany  
 Date: March 2012  
 Seminar: Exploring neutrino signals in dark matter detectors

**Fermilab**  
 Location: Batavia, IL, USA  
 Date: June 2011  
 Seminar: Probing Large Extra Dimensions with Neutrino Oscillations

# List of Publications

Pedro A. N. MACHADO

## PUBLICATIONS AND PREPRINTS

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1. **White Paper on New Opportunities at the Next-Generation Neutrino Experiments (Part 1: BSM Neutrino Physics and Dark Matter)**  
C. Argüelles *et al.*  
[arXiv:1907.08311 [hep-ph]]
2. **Neutrino Non-Standard Interactions: A Status Report**  
P. S. Bhupal Dev, K.S. Babu, P. B. Denton, P. A. N. Machado *et al.*  
[arXiv:1907.00991 [hep-ph]]
3. **Where are the Next Higgs Bosons?**  
C. T. Hill, P. A. N. Machado, A. E. Thomsen, J. Turner  
Phys.Rev. **D100** (2019) no.1, 015051 [arXiv:1904.04257 [hep-ph]]
4. **Sub-GeV Atmospheric Neutrinos and CP-Violation in DUNE**  
K. J. Kelly, P. A. N. Machado, I. Martinez-Soler, S. J. Parke, Y. F. Perez-Gonzalez  
[arXiv:1904.02751 [hep-ph]]
5. **Hunting On- and Off-Axis for Light Dark Matter with DUNE-PRISM**  
V. De Romeri, K. J. Kelly, P. A. N. Machado  
[arXiv:1903.10505 [hep-ph]]
6. **The Short-Baseline Neutrino Program at Fermilab**  
P. A. N. Machado, O. Palamara, D. W. Schmitz  
Ann.Rev.Nucl.Part.Sci. 69 [arXiv:1903.04608 [hep-ph]]
7. **Scalar Democracy**  
C. T. Hill, Pedro A. N. Machado, A. E. Thomsen, J. Turner  
Phys.Rev. **D100** (2019) no.1, 015015 [arXiv:1902.07214 [hep-ph]]
8. **Constraining Sterile Neutrino Interpretations of the LSND and MiniBooNE Anomalies with Coherent Neutrino Scattering Experiments**  
C. Blanco, D. Hooper, P. A. N. Machado  
[arXiv:1901.08094 [hep-ph]]
9. **How high is the neutrino floor?**  
C. Boehm, D.G. Cerdeño, P. A. N. Machado, A. Olivares-Del Campo, E. Reid  
JCAP 1901 (2019) 043, [arXiv:1809.06385 [hep-ph]]
10. **Multimessenger Astronomy and New Neutrino Physics**  
K. J. Kelly, P. A. N. Machado  
JCAP 1810 (2018) no.10, 048 [arXiv:1808.02889 [hep-ph]]
11. **Neutrino Masses and Mixings Dynamically Generated by a Light Dark Sector**  
E. Bertuzzo, S. Jana, P. A. N. Machado, R. Zukanovich Funchal  
Phys.Lett. B791 (2019) 210-214, [arXiv:1808.02500 [hep-ph]]
12. **A Dark Neutrino Portal to Explain MiniBooNE**  
E. Bertuzzo, S. Jana, P. A. N. Machado, R. Zukanovich Funchal  
Phys.Rev.Lett. 121 (2018) no.24, 241801, [arXiv:1807.09877 [hep-ph]]
13. **Natural and Dynamical Neutrino Mass Mechanism at the LHC**  
J. Gehrlein, D. Goncalves, P. A. N. Machado, Y. F. Perez-Gonzalez  
Phys.Rev. **D98** (2018) no.3, 035045 [arXiv:1804.09184 [hep-ph]]

14. **Updated global analysis of neutrino oscillations in the presence of eV-scale sterile neutrinos**  
M. Dentler, A. Hernandez-Cabezudo, J. Kopp, P. A. N. Machado, M. Maltoni, I. Martinez-Soler, T. Schwetz  
JHEP 1808 (2018) 010 [arXiv:1803.10661 [hep-ph]]
15. **Neutrinos in Large Extra Dimensions and Short-Baseline  $\nu_e$  Appearance**  
M. Carena, Y.-Y. Li, C.S. Machado, P. A. N. Machado, C.E.M. Wagner  
Phys.Rev. D96 (2017) no.9, 095014 [arXiv:1708.09548 [hep-ph]]
16. **Dark Matter and the elusive  $Z'$  in a dynamical Inverse Seesaw scenario**  
V. De Romeri, E. Fernandez-Martinez, J. Gehrlein, P. A. N. Machado, V. Niro  
JHEP 1710 (2017) 169 [arXiv:1707.08606 [hep-ph]]
17. **Double Bangs from New Physics in IceCube**  
P. Coloma, P. A. N. Machado, I. Martinez-Soler, I. M. Shoemaker  
Phys.Rev.Lett. 119 (2017) no.20, 201804 [arXiv:1707.08573 [hep-ph]]
18. **A Neutrinophilic 2HDM as a UV Completion for the Inverse Seesaw Mechanism**  
E. Bertuzzo, P. A. N. Machado, Z. Tabrizi, R. Zukanovich Funchal  
JHEP 1711 (2017) 004 [arXiv:1706.10000 [hep-ph]]
19. **Constraints from Triple Gauge Couplings on Vectorlike Leptons**  
E. Bertuzzo, P. A. N. Machado, Y. F. Perez-Gonzalez, R. Zukanovich Funchal  
Phys.Rev. D96 (2017) no.3, 035035 [arXiv:1706.03073 [hep-ph]]
20. **Distorted Neutrino Oscillations From Ultralight Scalar Dark Matter**  
G. Krnjaic, P. A. N. Machado, L. Necib  
Phys.Rev. D97 (2018) no.7, 075017 [arXiv:1705.06740 [hep-ph]]
21. **Flavor Gauge Models Below the Fermi Scale**  
K. S. Babu, A. Friedland, P. A. N. Machado, I. Mocioiu  
JHEP 1712 (2017) 096 [arXiv:1705.01822 [hep-ph]]
22. **Simplified Models for Dark Matter Face their Consistent Completions**  
D.Goncalves, P. A. N. Machado, J. M. No  
Phys.Rev. D95 (2017) no.5, 055027 [arXiv:1611.04593 [hep-ph]]
23. **The linear-non-linear frontier for the Goldstone Higgs**  
M. B. Gavela, K. Kanshin, P. A. N. Machado, S. Saa.  
Eur. Phys. J. C76 (2016) no.12, 690 [arXiv:1610.08083 [hep-ph]]
24. **Physics at a 100 TeV pp collider: beyond the Standard Model phenomena**  
T. Golling *et al.*  
[arXiv:1606.00947 [hep-ph]]
25. **Physics from solar neutrinos in dark matter direct detection experiments**  
D. G. Cerdeno, Malcolm, M. Fairbairn, T. Jubb, P. A. N. Machado, A. C. Vincent, C. Boehm  
JHEP 1605 (2016) 118 [arXiv:1604.01025 [hep-ph]]
26. **The minimal linear sigma model for the Goldstone Higgs**  
F. Feruglio, B. Gavela, K. Kanshin, P. A. N. Machado, S. Rigolin, S. Saa  
JHEP 1606 (2016) 038 [arXiv:1603.05668 [hep-ph]]
27. **Di-Photon excess in 2HDM: hastening towards the instability and the non-perturbative regime**  
E. Bertuzzo, P. A. N. Machado, M. Taoso  
Phys. Rev. D94 (2016) 115006 [arXiv:1601.07508 [hep-ph]]
28. **Global constraints on vector-like WIMP effective interactions**  
M. Blennow, P. Coloma, E. Fernandez-Martinez, P. A. N. Machado, B. Zaldivar  
JCAP 1604 (2016) no.04, 015 [arXiv:1509.01587 [hep-ph]]

29. **On the Viability of Minimal Neutrinophilic Two-Higgs-Doublet Models**  
P. A. N. Machado, Y. F. Perez, O. Sumensari, Z. Tabrizi, R. Zukanovich Funchal  
JHEP 1512 (2015) 160 [arXiv:1507.07550 [hep-ph]]
30. **Lepton Jets from Radiating Dark Matter**  
M. Buschmann, J. Kopp, J. Liu, P. A. N. Machado  
JHEP 07 (2015) 045 [arXiv:1505.07459 [hep-ph]]
31. **On the renormalization of the electroweak chiral Lagrangian with a Higgs**  
M. B. Gavela, K. Kanshin, P. A. N. Machado, S. Saa  
JHEP 1503 (2015) 043 [arXiv:1409.1571 [hep-ph]]
32. **What can we learn about the lepton CP phase in the next 10 years?**  
P. A. N. Machado, H. Minakata, H. Nunokawa, R. Zukanovich Funchal  
JHEP 1405 (2014) 109 [arXiv:1307.3248 [hep-ph]]
33. **Sterile Neutrino Oscillations: The Global Picture**  
J. Kopp, P. A. N. Machado, M. Maltoni, T. Schwetz  
JHEP 1305 (2013) 050 [arXiv:1303.3011 [hep-ph]]
34. **Neutrino Mass Matrix Textures: A Data-driven Approach**  
E. Bertuzzo, P. A. N. Machado, R. Zukanovich Funchal  
JHEP 1306 (2013) 097 [arXiv:1302.0653 [hep-ph]]
35. **Can New Colored Particles Illuminate the Higgs?**  
E. Bertuzzo, P. A. N. Machado, R. Zukanovich Funchal  
JHEP 1302 (2013) 086 [arxiv:1209.6359[hep-ph]]
36. **Potential of a neutrino detector in the ANDES underground laboratory for geophysics and astrophysics of neutrinos**  
P. A. N. Machado, T. Mühlbeier, H. Nunokawa, R. Zukanovich Funchal  
Phys. Rev. D86 (2012) 125001 [arXiv:1202.6073 [hep-ph]]
37. **Does  $H \rightarrow \gamma\gamma$  Taste like vanilla New Physics?**  
L. G. Almeida, E. Bertuzzo, P. A. N. Machado, R. Zukanovich Funchal  
JHEP 1211 (2012) 085 [arXiv:1207.5254 [hep-ph]]
38. **Light Sterile Neutrinos: A White Paper**  
K. N. Abazajian *et al.*  
[arXiv:1204.5379 [hep-ph]]
39. **Exploring  $\nu$  signals in dark matter detectors**  
R. Harnik, J. Kopp, P. A. N. Machado  
JCAP 07 (2012) 026 [arXiv:1202.6073 [hep-ph]]
40. **Combining accelerator and reactor measurements of  $\theta_{13}$ ; The first result**  
P. A. N. Machado, H. Minakata, H. Nunokawa, R. Zukanovich Funchal  
JHEP 05 (2012) 023 [arXiv:1111.3330 [hep-ph]]
41. **Testing nonstandard neutrino properties with a Mössbauer oscillation experiment**  
P. A. N. Machado, H. Nunokawa, F. A. Pereira dos Santos, R. Zukanovich Funchal  
JHEP 1111 (2011) 136 [arXiv:1108.3339 [hep-ph]]
42. **Bulk neutrinos as an alternative cause of the gallium and reactor anti-neutrino anomalies**  
P. A. N. Machado, H. Nunokawa, F. A. Pereira dos Santos, R. Zukanovich Funchal  
Phys. Rev. D85 (2012) 073012 [arXiv:1107.2400 [hep-ph]]
43. **Testing for large extra dimensions with neutrino oscillations**  
P. A. N. Machado, H. Nunokawa, R. Zukanovich Funchal  
Phys. Rev. D84 (2011) 013003 [arXiv:1101.0003 [hep-ph]]

44. Interpretation of MINOS data in terms of non-standard neutrino interactions

J. Kopp, P. A. N. Machado, S. J. Parke

Phys. Rev. D **82** (2010) 113002 [arXiv:1009.0014 [hep-ph]]

## CONFERENCE PROCEEDINGS

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Center for Theoretical Underground Physics and Related Areas (CETUP\*)

*Flavor effects at the MeV and TeV scales*

P. A. N. Machado

AIP Conf.Proc. **1743** (2016) 030005

IX International Conference on Interconnections between Particle Physics and Cosmology (PPC2015)

*Sterile neutrinos*

J. Kopp, P. A. N. Machado, M. Maltoni, T. Schwetz

AIP Conf.Proc. **1743** (2016) 050009

CORFU 2014: 14th Hellenic School and Workshops on Elem. Part. Phys. and Gravity

*On Bimaximal Neutrino Mixing and GUT's*

G. Altarelli, P. A. N. Machado, D. Meloni

PoS CORFU2014 (2015) 012

NOW 2014: Neutrino Oscillation Workshop

*Learning about the CP phase in the next 10 years*

P. A. N. Machado

Nuc. Part. Phys. Proc. **265-266** (2015)

Neutel 2013: 15th Int. Workshop on Neutrino Telescopes

*Global Status of Sterile Neutrino Scenarios*

J. Kopp, P. A. N. Machado, M. Maltoni, T. Schwetz

PoS Neutel2013 (2013) 019

TAUP 2011: 12th Int. Conference on Topics in Astroparticle and Underground Physics

*Potential of the ANDES Underground Laboratory for neutrino geophysics and astrophysics*

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J. Phys. Conf. Ser. **375**, 042062 (2012)

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*Large extra dimensions and reactor antineutrino anomaly*

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*Large Extra Dimensions and Neutrino Oscillations*

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*Probing Extra Dimensions with Neutrino Oscillations*

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