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👤 Born: September 28, 1986, in Pozul (Ecuador)

🇪🇺 Nationalities: Ecuadorian-French

🌐 <http://lmanzanillas.github.io/>

Education

- 2013 – 2016 ■ **Ph.D. in Particle and Astroparticle Physics**, *Laboratoire d'Annecy de Physique des Particules (LAPP), Université Grenoble Alpes, Annecy, France*.
Supervisors: Pablo del Amo Sanchez and Dominique Duchesneau
- 2012 – 2013 ■ **M.Sc. in Particle Physics**, *Université Blaise Pascal - Université Clermont Auvergne, Clermont-Ferrand, France*.
- 2005 – 2011 ■ **B.Sc. in Physics**, *Escuela Politécnica Nacional, Quito, Ecuador*.

Research experience

- 2019 – present ■ **Post-doctoral researcher**. Gerda/LEGEND experiments, *Max-Planck-Institut für Physik, Munich, Germany*.
 - Data analysis with GERDA data
 - Responsible of the production and characterization of PEN holders for LEGEND-200.
 - R&D coordinator for further application of PEN as self-vetoing structural material for LEGEND-1000.
- 2017 – 2019 ■ **Post-doctoral researcher**. SoLid experiment, *Laboratoire de l'Accélérateur Linéaire (LAL), Univ Paris-Sud, CNRS/IN2P3, Université Paris-Saclay, Orsay, France*.
 - Quality assurance coordinator during detector construction
 - Run and calibration coordinator after commissioning
 - IBD signal + BiPo background analysis
- 2013 – 2017 ■ **PhD Student**. STEREO experiment, *Laboratoire d'Annecy de Physique des Particules (LAPP), Université Savoie Mont Blanc, Université Grenoble Alpes, Annecy - France*.
 - Development of the source calibration system of the STEREO experiment and search for sterile neutrinos at the ILL.
- 2013 – 2013 ■ **Internship**. STEREO experiment, *Laboratoire d'Annecy de Physique des Particules (LAPP), Annecy - France*.
- 2012 – 2012 ■ **Research assistant**. *Instituto Nacional de Meteorología e Hidrología - Inamhi, Quito - Ecuador*.
- 2010 – 2012 ■ **Research assistant**. *Instituto Geofísico, Escuela Politécnica Nacional, Quito - Ecuador*.

Teaching experience

- 2018 – 2019 ■ **Moniteur**. *Institut Villebon Georges Charpak et Université Paris Sud, Orsay - France*.
 - TP Nuclear Physics and TP/TD thermodynamics
- 2014 – 2016 ■ **Moniteur**. *IUT Université Savoie Mont Blanc, Annecy - France*.
 - TP optics
- 2009 – 2010 ■ **Laboratory assistant**. Physics department, *Escuela Politécnica Nacional, Quito - Ecuador*.
 - TP Physics I, II and III.

Publications

Journal Articles

- 1 Abreu, Y. et al. (2020). SoLid: A short baseline reactor neutrino experiment. *Submitted to JINST*. arXiv: 2002.05914 [physics.ins-det]
- 2 Agostini, M. et al. (2020). Final Results of GERDA on the Search for Neutrinoless Double- β Decay. *Accepted for publication in Physical Review Letters*. arXiv: 2009.06079 [nucl-ex]
- 3 Abreu, Y. et al. (2019a). Commissioning and Operation of the Readout System for the SoLid Neutrino Detector. *JINST*, 14(11), P11003. doi:10.1088/1748-0221/14/11/P11003. arXiv: 1812.05425 [physics.ins-det]
- 4 Abreu, Y. et al. (2019b). Development of a Quality Assurance Process for the SoLid Experiment. *JINST*, 14(02), P02014. doi:https://doi.org/10.1088/1748-0221/14/02/P02014. arXiv: 1811.05244 [physics.ins-det]
- 5 Cabrera, A. et al. (2019). Neutrino Physics with an Opaque Detector. *Submitted to NCP*. arXiv: 1908.02859 [physics.ins-det]
- 6 Abreu, Y. et al. (2018a). Optimisation of the scintillation light collection and uniformity for the SoLid experiment. *JINST*, 13(09), P09005. doi:10.1088/1748-0221/13/09/P09005. arXiv: 1806.02461 [physics.ins-det]
- 7 Abreu, Y. et al. (2018b). Performance of a full scale prototype detector at the BR2 reactor for the SoLid experiment. *JINST*, 13(05), P05005. doi:10.1088/1748-0221/13/05/P05005. arXiv: 1802.02884 [physics.ins-det]
- 8 Allemandou, N. et al. (2018). The STEREO Experiment. *JINST*, 13(07), 07. doi:10.1088/1748-0221/13/07/P07009. arXiv: 1804.09052 [physics.ins-det]
- 9 Almazán, H. et al. (2018). Sterile Neutrino Constraints from the STEREO Experiment with 66 Days of Reactor-On Data. *Phys. Rev. Lett.* 121(16), 161801. doi:10.1103/PhysRevLett.121.161801. arXiv: 1806.02096 [hep-ex]

Conference Proceedings

- 1 Abt, I. et al. (2020). Usage of PEN as self-vetoing structural material in low background experiments. In *Proceedings, 40th International Conference on High Energy Physics (ICHEP2020): July 28 - August 6, 2020, Prague, Czech Republic (virtual meeting) 2020* (Vol. ICHEP2020). arXiv: 2011.08983 [physics.ins-det]
- 2 Efremenko, Y. et al. (2020). Use of poly(ethylene naphthalate) as a self-vetoing structural material. In *Proceedings, 16th International Conference on Topics in Astroparticle and Underground Physics (TAUP 2019): Toyama, Japan, September 08-14, 2019* (Vol. 1468, p. 012225). IOP Publishing. doi:10.1088/1742-6596/1468/1/012225
- 3 **Manzanillas, L.** (2020). Status of the SoLid experiment: Search for sterile neutrinos at the SCK-CEN BR2 reactor. In *Proceedings, 15th International Conference on Topics in Astroparticle and Underground Physics (TAUP 2017): Sudbury, Ontario, Canada, July 24-28, 2017* (Vol. 1342, 1, p. 012034). doi:10.1088/1742-6596/1342/1/012034. arXiv: 1710.07933 [physics.ins-det]
- 4 Almazán, H. et al. (2019). Search for light sterile neutrinos with the STEREO experiment. In *Proceedings, International Workshop on Particle Physics at Neutron Sources 2018 (PPNS 2018): Grenoble, France, May 24-26, 2018* (Vol. 219, p. 08001). doi:10.1051/epjconf/201921908001
- 5 **Manzanillas, L.** (2019a). Calibration of the highly segmented SoLid antineutrino detector. In *European Physical Society Conference on High Energy Physics - EPS-HEP2019, 10-17 July, 2019 Ghent, Belgium*. arXiv: 1910.12825 [physics.ins-det]

- 6 **Manzanillas, L.** (2019b). Performance of the SoLid Reactor Neutrino Detector. In *European Physical Society Conference on High Energy Physics - EPS-HEP2019, 10-17 July, 2019 Ghent, Belgium*. arXiv: 1910.12842 [physics.ins-det]
- 7 **Manzanillas, L.** (2019c). Performance of the SoLid Reactor Neutrino Detector. In *Proceedings, 39th International Conference on High Energy Physics (ICHEP2018): Seoul, Korea, July 4-11, 2018* (Vol. ICHEP2018, p. 426). doi:10.22323/1.340.0426. arXiv: 1811.05694 [physics.ins-det]
- 8 **Manzanillas, L.** (2018a). Calibration and energy scale in solid. In *Proceedings, Energy Scale Calibration in Antineutrino Precision Experiments ESCAPE 2018: Heidelberg, Germany, June 1-2, 2018*. doi:10.5281/zenodo.1314400
- 9 **Manzanillas, L.** (2018b). Calibration and quality assurance of the SoLid detector. In *Proceedings, NEUTRINO 2018: Heidelberg, Germany, June 4-9, 2018*. doi:10.5281/zenodo.1300477
- 10 **Manzanillas, L.** (2017). STEREO: Search for sterile neutrinos at the ILL. In *Proceedings, Neutrino Oscillation Workshop (NOW 2016): Otranto (Lecce), Italy, September 4-11, 2016* (Vol. NOW2016, p. 033). arXiv: 1702.02498

Invited conferences and seminars

- July - 2020: ■ Talk in parallel session, *Usage of PEN as self-vetoing structural material in low background experiments*, XXXX International Conference on High Energy Physics (**ICHEP-2020**), Prague, Czech Republic (virtual meeting).
- January - 2020: ■ Seminar, *The fascinating world of neutrinos*, Escuela Politécnica Nacional, Quito, Ecuador.
- July - 2019: ■ Talk in parallel session, Performance of the SoLid reactor neutrino detector, European Physical Society Conference on High Energy Physics 2019 (**EPS-HEP2019**), Ghent, Belgium.
- Poster, Calibration of the highly segmented SoLid antineutrino detector, European Physical Society Conference on High Energy Physics 2019 (**EPS-HEP2019**), Ghent, Belgium.
- July - 2018: ■ Talk in parallel session, Performance of the SoLid reactor neutrino detector, XXXIX International Conference on High Energy Physics (**ICHEP-2018**), COEX - Seoul, South Korea.
- June - 2018: ■ Talk, Performance of the SoLid Reactor Neutrino Detector, **GDR neutrino**, APC, Paris, France.
- Talk, Highlights from NEUTRINO-2018 conference, **GDR neutrino**, APC, Paris, France.
- Poster, Calibration and quality assurance of the SoLid detector, XXVIII International Conference on Neutrino Physics and Astrophysics (**NEUTRINO-2018**), Heidelberg, Germany.
- Talk, Calibration and Energy Scale in Solid, Energy Scale Calibration in Antineutrino Precision Experiments (**ESCAPE 2018**), Heidelberg, Germany.
- May - 2018: ■ Seminar, Status of the SoLid experiment: Search for sterile neutrinos, LPSC, Grenoble, France.
- February - 2018: ■ Seminar, The SoLid experiment: Search for sterile neutrinos at the SCK • CEN BR2 reactor, CPPM, Marseille, France.
- July - 2017: ■ Talk in parallel session, Status of the SoLid experiment, Topics in Astroparticle and Underground Physics (**TAUP2017**), Sudbury ON, Canada.
- January - 2017: ■ Seminar, Search for sterile neutrinos at nuclear reactors, Escuela Politécnica Nacional, Quito, Ecuador.

Invited conferences and seminars (continued)

- December – 2016: ■ Seminar, Search for sterile neutrinos at nuclear reactors, Universidad San Francisco de Quito, Quito, Ecuador.
- November – 2016: ■ Seminar, Search for sterile neutrinos at nuclear reactors, Observatorio Astronómico de Quito, Quito, Ecuador.
- September – 2016: ■ Talk in parallel session, The STEREO experiment: Search for sterile neutrinos at the ILL, Parallel session, Neutrino Oscillation Workshop (**NOW2016**), Lecce, Italy.
- June – 2016: ■ Talk, Status of the STEREO experiment, **GDR neutrino**, Grenoble, France.
- November – 2015: ■ Talk, Development of the source calibration system of the STEREO experiment, Journées de Rencontre des Jeunes Chercheurs, Chedigny, France.
- March – 2015: ■ Poster, The STEREO experiment, The 2015 CERN – Latin-American School of High-Energy Physics, Ibarra, Ecuador.
- October – 2011: ■ Talk, Analysis of chugging signals at the El Reventador volcano, 7th Conference of Earth Sciences, Quito – Ecuador.

References

Dr Mathieu Bongrand

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Dr Pablo del Amo Sanchez

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Students supervision

- 2020–2021 ■ **Bachelor thesis supervisor**, Lukas Kühnemann, Bachelor thesis at MPP, TUM.
- 2019–2021 ■ **PhD student co-supervisor (50%)**, Felix Fischer, PhD student at MPP, GERDA/LEGEND (2018–2021), TUM.
- 2019 ■ **Master I student supervisor**, Cassandre Contre, Master I internship in SoLid at LAL (2 months), Univ. Paris Sud.
- 2018–2019 ■ **PhD student co-supervisor (33%)**, Noe Roy, SoLid PhD student (2018–2021), LAL, Univ. Paris Sud.
- 2018 ■ **PhD student final analysis co-supervisor (30%)**, Delphine Boursette, SuperNemo and SoLid PhD student (2015–2018), LAL, Univ. Paris Sud.
- **Master II student co-supervisor (50%)**, Noe Roy, Master II internship in SoLid at LAL (4 months), Univ. Paris Sud.
- **Master II students detector project supervisor**, Manar Amer and Shayma Hossein, NPAC, Univ. Paris Sud.

Students supervision (continued)

- **Master I student supervisor**, Serhii Liaskovets, Master I internship at LAL (3 months), *National Taras Shevchenko University of Kyiv*.
- 2017 ■ **Master I student supervisor**, Oleg Cherpak, Master I internship at LAL (3 months), *National Taras Shevchenko University of Kyiv*.

Miscellaneous Experience

Responsibilities

- 2019–2021 ■ **Coordinator of PEN R&D for applicatin in LEGEND–200/LEGEND–1000**.
- 2017–2019 ■ **Run coordinator**, SoLid experiment.
- 2018–2019 ■ **Calibration coordinator**, SoLid experiment.
- **Organizer and host** of two SoLid analysis workshops, LAL.
- 2017–2018 ■ **Quality assurance coordinator**, SoLid experiment.
- 2009 ■ **General secretary**, Association of physics students of the *Escuela Politécnica Nacional*.

Science dissemination

- 2019–present ■ **Founder member of *Grupo de Investigadores Latitud Cero***, Outreach talks about Physics to Ecuadorian and Latin American undergraduate students.
- 2016 ■ **Presenter**, Stand Neutrino, *Journées Portes Ouvertes, Fête de la Science, LAPP*.
- 2014 ■ **Presenter**, Stand Neutrino, *Journées Portes Ouvertes, Fête de la Science, LAPP*.

Awards and Achievements

- 2012 ■ **SENESCYT scholarship holder**, *Secretaría Nacional de Educación Superior Ciencia y Tecnología*, Quito – Ecuador, 2012–2013.

Interests

- Marathon running, trail and ultratrail running, climbing, alpine hiking.

Skills

- Languages ■ English (fluent), French (fluent), German (B1), Spanish (Mother tongue).
- Coding ■ C++, Julia, ROOT, Geant4, BASH, PERL, CRONTAB.
- Operating systems: ■ Linux flavors.
- Statistical Packages: ■ RooFit, R.
- Applications: ■ L^AT_EX, Matlab, Mathematica.