

# Luca Pernie, Ph.D.

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Green Card Holder

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## Data Scientist 2

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### Publications & Conferences

400+ publications as a member of CMS Collaborations (Full lists available [here](#))

#### Publications

- Huang T., Pernié L. et al., "Resonant Di-Higgs Production in the  $bbWW$  Channel: Probing the Electroweak Phase Transition at the LHC", Phys. Rev. D 96 (2017), DOI:10.1103/PhysRevD.96.035007.
- CMS Collaboration, "Search for SUSY with multileptons in 13 TeV data", analysis review committee, CERN-EP-2017-243, Submitted to JHEP.
- ATLAS Collaboration, "Search for dark matter produced in association with a Higgs boson decaying to  $bb$  using 36 fb<sup>-1</sup> of pp collisions at  $\sqrt{s}=13$  TeV with the ATLAS detector", External referee, CERN-EP-2017-117, Phys. Rev. Lett.
- CMS Collaboration, "A search for pair production of new light bosons decaying into muons", Physics Letter B, Volume 752, 10 January 2016, <https://doi.org/10.1016/j.physletb.2015.10.067>.
- CMS Collaboration, "Measurements of the ZZ production cross sections in the  $2l2\nu$  channel in proton-proton collisions at  $\sqrt{s}=7$  and 8 TeV and combined constraints on triple gauge couplings", Eur. Phys. J. C 75 (2015).
- Brianza L., Pernié L. et al., "Response of microchannel plates to single particles and to electromagnetic showers, NIMA vol. 797 (2015).
- CMS Collaboration, "Search for a Higgs boson in the mass range from 145 to 1000 GeV decaying to a pair of W or Z bosons", J. High Energy Phys. 10 (2015).

Multiple international conferences (Full lists available [here](#))

#### Conferences

- **CHEP18, Computational High Energy Physics.** Title: Development and operational experience of the web based application to collect, manage, and release the alignment and calibration configurations for data processing at CMS. | Sofia, Bulgaria | July 2018
- **Pheno18, Phenomenology 2018 Symposium** Title: Probing the Electroweak Phase Transition at the High Luminosity LHC. | US | May 2017
- **SUSY17, 25th International Conference on Supersymmetry and the Unification of Fundamental Interactions.** Title: Searches for long-lived particles and other non-conventional signatures. | Mumbai, India | December 2017
- **PASCOS17, Particle physics, String theory and Cosmology, Madrid.** Title: Searches for extended Higgs sectors with the CMS experiment. | Madrid, Spain | June 2017
- **Jets and Heavy Flavor 2017, Los Alamos National Laboratory.** Title: CMS measurements of the Higgs, Higgs properties, and BSM searches. | Santa Fe, NM | February 2017
- **Invited seminar.** Title: Resonant di-Higgs production in the  $bbWW$  channel: probing the electroweak phase transition at the LHC. | University of Massachusetts Amherst | October 2016
- **Pheno2016, Phenomenology 2016 Symposium.** Title: Extended Higgs searches at the CMS experiment. | Pittsburg, PA | May 2016
- **14th ICATPP Conference on Astroparticle, Particle, Space Physics and Detectors for Physics Applications.** Title: Evolution of the response of the CMS ECAL, and upgrade design options for electromagnetic calorimetry at the HL-LHC. | Como, Italy | September 2013