

Thomas Mastrianni PERRY

PERSONAL DATA

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EDUCATION

2016 **Ph.D. in Physics** (particle physics minor) University of Wisconsin–Madison, Madison, WI, USA

A measurement of $Wb\bar{b}$ production and a search for monophoton signals of dark matter using the CMS detector at the CERN LHC

2009 **B.S. in Physics** (astrophysics minor) Union College, Schenectady, NY, USA

Magna Cum Laude with departmental honors

Multi-frequency VLBI imaging of two compact symmetric objects

SELECTED PUBLICATIONS [712 TOTAL, H INDEX = 105]

- CMS Collaboration, “Search for new physics in the monophoton final state in proton-proton collisions at $\sqrt{s} = 13$ TeV”, *JHEP* (2017) 10 doi: 10.1007/JHEP10(2017)073, [arXiv:1706.03794](https://arxiv.org/abs/1706.03794).
- CMS Collaboration, “Measurement of the production cross section of a W boson in association with two b jets in pp collisions at $\sqrt{s} = 8$ TeV”, *Eur. Phys. J. C* **77** (2017) 2, doi: 10.1140/epjc/s10052-016-4573-z, [arXiv:1608.07561](https://arxiv.org/abs/1608.07561).
- CMS Collaboration, “Search for dark matter and graviton produced in association with a photon in pp collisions at $\sqrt{s} = 13$ TeV with an integrated luminosity of 12.9fb⁻¹”, 2016, CMS-PAS-EXO-16-039, <http://cds.cern.ch/record/2205148>.
- CMS Collaboration, “Search for Dark Matter and Large Extra Dimensions in the gamma + MET final state in pp Collisions at $\sqrt{s} = 13$ TeV”, 2016, CMS-PAS-EXO-16-014, <http://cds.cern.ch/record/2160229>.
- CMS Collaboration, “Measurement of the production cross section for pp to Z(nu nu) gamma at $\sqrt{s} = 13$ TeV at CMS”, 2016, CMS-PAS-SMP-16-004, <http://cds.cern.ch/record/2204922>.
- CMS Collaboration, “Measurement of the production cross section for a W boson and two b jets in pp collisions at $\sqrt{s} = 7$ TeV”, *Phys. Lett. B* **735** (2014) 204, doi: 10.1016/j.physletb.2014.06.041, [arXiv:1312.6608](https://arxiv.org/abs/1312.6608).
- J.M. Marr, T.M. Perry, J. Read, G.B. Taylor, A.O. Morris, “Multi-frequency Optical-depth Maps and the Case for Free-Free Absorption in Two Compact Symmetric Radio Sources: The CSO Candidate J1324 + 4048 and the CSO J0029 + 3457”, *Astrophys. J.* **780** (2014) 178, doi: 10.1088/0004-637X/780/2/178, [arXiv:1311.5762](https://arxiv.org/abs/1311.5762).
- CMS Collaboration, “CMS Technical Design Report for the Level-1 Trigger Upgrade”, 2013, CERN-LHCC-2013-011, CMS-TDR-012, <https://cds.cern.ch/record/1556311>.

FELLOWSHIPS/PRIZES/AWARDS

2017 Finalist - Famelab Switzerland

The Swiss national finals for an international science communication competition

2015 CMS Create First Prize - CMS Collaboration

A competition to create a new public exhibit located at CMS

2009 Minerva Fellowship - Thomas McEvoy and Harold Fried

An eleven-month, \$10,000 fellowship to live and volunteer in rural Uganda

2009 Undergraduate Student Prize - Astronomical Society of New York

Annual award for the best astronomy-related undergraduate research paper

2009 Josephine Daggett Award - Presidential Award - Union College

In recognition of the student voted by the faculty to be “of the best character and conduct”

2008 Booth-Ferris Fellowship - Edward Jones

A private \$3000 fellowship to perform undergraduate research

2007 James Henry Turnbull Award - Union College

In recognition of the “best sophomore physics student”

Honor Societies 2009 Phi Beta Kappa - National Honor Society ; 2009 Sigma Xi - National Research Honor Society ; 2007 Sigma Pi Sigma - National Physics Honor Society ; 2006, 2007, 2008, 2009 Union College Dean’s List

WORK EXPERIENCE

- Jun 2020 - present Math Teacher (Algebra I)/Tutor, Supervisor: Aiyana Pendleton, 505-982-1829, apendleton@sfprep.org
Santa Fe Preparatory School, 1101 Camino Cruz Blanca, Santa Fe, NM, 87505
- Aug 2019 - May 2020 Math Teacher (Calculus/Algebra II), Supervisor: James Leonard, 505-795-7514, jleonard@sfprep.org
Santa Fe Preparatory School, 1101 Camino Cruz Blanca, Santa Fe, NM, 87505
- Jan 2019 - May 2019 Carpenter, Supervisor: Bob Fuller, 781-248-6446, info@southshoreboatworks.com
South Shore Boatworks, 22 Industrial Blvd., Hanson, MA, 02341
- May 2017 - Aug 2018 Operations Manager for the CMS Hadronic Calorimeter, Supervisor: Paolo Rumerio, 205-348-2565, rumerio@cern.ch CERN, Route de Meyrin 385, Meyrin, CH, 1204
- Nov 2016 - Oct 2018 Postdoctoral Fellow, Supervisor: Ted Kolberg, 850-445-6866, tkolberg@hep.fsu.edu
Florida State University, Department of Physics, 77 Chieftain Way, Tallahassee, FL, 32306
- Sept 2016 - Oct 2016 Postdoctoral Fellow, Supervisor: Wesley Smith, 608-251-9610, wsmith@hep.wisc.edu
CERN, Route de Meyrin 385, Meyrin, CH, 1204
- Jun 2013 - Aug 2016 Research Assistant, Supervisor: Wesley Smith, 608-251-9610, wsmith@hep.wisc.edu
CERN, Route de Meyrin 385, Meyrin, CH, 1204
- Sep 2013 - May 2014 Teaching Assistant (Physics 103/104), Supervisor: Wesley Smith, 608-251-9610, wsmith@hep.wisc.edu
University of Wisconsin–Madison, Department of Physics, 1150 University Ave., Madison, WI, 53706
- Jun 2012 - Aug 2013 Research Assistant, Supervisor: Wesley Smith, 608-251-9610, wsmith@hep.wisc.edu
CERN, Route de Meyrin 385, Meyrin, CH, 1204
- Sep 2011 - May 2012 Teaching Assistant (Physics 103/104), Supervisor: Wesley Smith, 608-251-9610, wsmith@hep.wisc.edu
University of Wisconsin–Madison, Department of Physics, 1150 University Ave., Madison, WI, 53706
- Jun 2011 - Aug 2011 Research Assistant, Supervisor: Albrecht Karle, 608-262-3945, albrecht.karle@icecube.wisc.edu
IceCube Collaboration, 222 West Washington Ave #500, Madison, WI, 53703
- Nov 2010 - May 2011 Chemical Engineering Technician, Supervisor: Sarah Genovese, genovese@ge.com
General Electric Global Research Center, 1 Research Circle, Niskayuna, NY, 12309
- Jul 2009 - Apr 2010 A-level Physics Teacher
St. Bernard's Secondary School, Kiswera, Uganda (Masaka District)
As part of the Minerva Fellowship I volunteered as a full-time physics teacher to high school seniors
- Dec 2008 - Feb 2009 Science Bowl Coach, Supervisor: Donald Austin, 518-388-6609
Kenney Community Center, 807 Union St., Schenectady, NY, 12305
- Nov 2007 - Jun 2009 Planetarium Educator, Supervisor: Steve Russo, 518-382-7890
Suits-Bueche Planetarium, 15 Nott Terrace Heights, Schenectady, NY, 12308
- Jan 2007 - Mar 2009 Physics Help Center Tutor, Supervisor: Jay Newman, 518-388-6506
Union College Physics Department, 807 Union St., Schenectady, NY, 12308

NOTABLE PRESENTATIONS

- 2018 CMS Exotica Workshop, Athens, Greece, *Search for Higgs boson decays to long-lived scalar particles in associated Higgs boson production*
- 2018 February CMS Week Run Coordination session, CERN, Meyrin, Switzerland, *HCAL endcap upgrade status*
- 2017 December CMS Week Run Coordination session, CERN, Meyrin, Switzerland, *HCAL end of year summary*
- 2017 June CMS Week Run Coordination session, CERN, Meyrin, Switzerland, *Status of the HCAL*
- 2017 June CMS Week HCAL session, CERN, Meyrin, Switzerland, *The Hadronic Calorimeter in the first half of 2017*, chair of session
- 2016 CMS Exotica Workshop, Zurich, Switzerland, *Monophotons post ICHEP - a summary of 2016*
- 2016 CERN Internal Preapproval Talk for SMP-16-004, CERN, Meyrin, Switzerland, *Measurement of the $Z(\nu\nu)\gamma$ production cross section at $\sqrt{s}=13$ TeV*
- 2016 Posters@LHCC (poster), CERN, Meyrin, Switzerland, *Measurement of the W boson production cross section in association with two b jets in pp collisions at $\sqrt{s}=8$ TeV*
- 2015 CERN Internal Approval Talk for SMP-14-020, CERN, Meyrin, Switzerland, *Measurement of the W boson production cross section in association with two b jets in pp collisions at $\sqrt{s}=8$ TeV*
- 2015 XXIII International Workshop on Deep-inelastic scattering and related subjects, Southern Methodist University, Dallas, TX, USA, *Vector boson production in association with jets and heavy flavor quarks at CMS*
- 2015 Physics Department Colloquium, Union College, Schenectady, NY, USA, *Experimental high-energy particle physics at CMS*
- 2015 American Physical Society April Meeting, Baltimore, MD, USA, *Measurement of the $W + b\bar{b}$ cross section at CMS*
- 2014 Posters@LHCC (poster), CERN, Meyrin, Switzerland, *Study of charm and bottom production in association with a W boson at CMS*
- 2011 American Astronomical Society (poster), University of Washington, Seattle, WA, USA, *Multi-frequency optical-depth maps and the case for free-free absorption in two candidate compact symmetric objects: 1321+410 and 0026+346*
- 2010 Astronomical Society of New York, Rensselaer Polytechnic Institute, Troy, NY, USA, *VLBI imaging of two compact symmetric objects*