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Education

Johns Hopkins University, Ph.D. Physics, 2015
Johns Hopkins University, M.A. Physics, 2012
James Madison University, B.S. Physics, 2009

Experience

Research

Rutgers University, Research Associate, 2020–Present
Rutgers University, Post-Doctoral Associate, 2015–2020
Fermilab, LPC Distinguished Researcher, 2021
Beyond 2 Generations: Resonances (B2GRES), Subgroup Convener, 2018–2020
JetMET Algorithms and Reconstruction (JMAR), Subgroup Convener, 2017–2018
FTBF T1209 Experiment, Spokesperson, 2017–Present
CMS Collaboration, Physics, 2010–Present
HL-LHC CMS Detector, Electronics, 2015–Present
Jefferson Lab, Electronics, 2009–2010
MINERvA Experiment, Electronics, 2008–2009

Teaching

Johns Hopkins University, 2010–2012

Outreach

USA Science and Engineering Festival, 2013, 2014
Baltimore area high school seminars, 2013
JHU Physics Fair, 2011–2014

Publications

Primary contributors

Search for a W' boson decaying to a vector-like quark and a top or bottom quark in the all-jets final state (Full Run 2)

The CMS Collaboration, **CMS Physics Analysis Summary (Paper in progress)**, [B2G-20-002](#)

Identification of heavy, energetic, hadronically decaying particles using machine-learning techniques

The CMS Collaboration, **CMS Paper**, [JINST 06 2020 P06005](#)

Search for a W' boson decaying to a vector-like quark and a top or bottom quark in the all-jets final state

The CMS Collaboration, **CMS Paper**, [JHEP 03 2019 127](#)

Search for $W' \rightarrow tb$ in the all-hadronic final state at $\sqrt{s} = 13$ TeV

The CMS Collaboration, **CMS Paper**, [JHEP 08 2017 029](#)

Search for $W' \rightarrow tb$ in proton-proton collisions at $\sqrt{s} = 8$ TeV

The CMS Collaboration, **CMS Paper**, [JHEP 02 2016 122](#)

Search for the production of an excited bottom quark decaying to tW in proton-proton collisions at $\sqrt{s} = 8$ TeV

The CMS Collaboration, **CMS Paper**, [JHEP 01 2016 166](#)

Secondary contributors

Search for a heavy resonance decaying to a top quark and a W boson at $\sqrt{s} = 13$ TeV in the fully hadronic final state

The CMS Collaboration, **CMS Paper (Submitted to JHEP)**, [Hep-Ex:2104.12853](#)

Search for Physics beyond the Standard Model in Events with Overlapping Photons and Jets

The CMS Collaboration, **CMS Paper**, [Phys. Rev. Lett. 123 241801 2019](#)

The Phase-2 Upgrade of the CMS Tracker

The CMS Collaboration, **CMS Technical Design Report**, [CDS \(Fig 3.23\)](#)

Boosted Top Jet Tagging at CMS

The CMS Collaboration, **CMS Physics Analysis Summary**, [CMS-PAS-JME-13-007](#)

Search for new physics using the $t\bar{t}$ invariant mass distribution in pp collisions at $\sqrt{s} = 8$ TeV

The CMS Collaboration, **CMS Paper**, [Phys. Rev. Lett. 111 211804 2013](#)

For my full authorship list as a CMS member: [Link](#)

Presentations at Conferences

[*Search for new resonances coupling to third generation quarks at CMS,*](#)

ICHEP, Seoul, KR., July 2018

[*Studies of the MaPSA-light Module for the CMS Phase II Upgrade,*](#)

Trento, Munich, DE., February 2018

[*Search for New Massive Resonances with Boosted Top Signatures at CMS,*](#)

Boost, Zurich, CH., July 2016

[*Boosted top quarks in physics analyses,*](#)

Boost, London, UK., August 2014