Rachel P. Yohay

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Education

Ph.D. Physics, University of Virginia	2012
B.S. Physics, California Institute of Technology	2006

Professional Experience

Associate Professor, Florida State University	2022 - present
Assistant Professor, Florida State University	2016 - 2022
Postdoctoral scholar, University of California, Davis High Energy Physics Group	2012 - 2016

Awards

Developing Scholar Award, Florida State University	2024 - 2025
PAI Award for Excellence in Teaching and Research, Florida State University	2020 - 2021

Selected Publications

G. Adamov et al. (CMS HGCAL Collaboration), "Leakage current of high-fluence neutron-irradiated 8" silicon sensors for the CMS Endcap Calorimeter Upgrade," accepted for publication in *J. Instr.* (2026).

K. M. Black et al., "Muon Collider Forum report," *J. Instr.* **19** (2024) T02015.

A. White, M. Yeh, R. Yohay, "Report of the Topical Group on Calorimetry," in *Report of the 2021 U.S. Community Study on the Future of Particle Physics (Snowmass 2021)*," 2023.

B. Acar et al. (CMS HGCAL Collaboration), "Neutron irradiation and electrical characterization of the first 8" silicon pad sensor prototypes for the CMS calorimeter endcap upgrade," *J. Instr.* **18** (2023) P08024.

W. Adam et al. (Tracker Group of the CMS Collaboration), "The CMS Phase-1 Pixel Detector Upgrade," *J. Instr.* **16** (2021) P02027.

N. Akchurin, P. Almeida, G. Altopp, M. Alyari, T. Bergauer, E. Brondolin, B. Burkle, W.D. Frey, Z. Gecse, U. Heintz, N. Hinton, V. Kuryatkov, R. Lipton, M. Mannelli, T. Mengke, P. Paulitsch, T. Peltola, F. Pitters, E. Sicking, E. Spencer, M. Tripathi, M.V. Barreto Pinto, J. Voelker, Z. Wang, and R. Yohay, "Charge collection and electrical characterization of neutron irradiated silicon pad detectors for the CMS High Granularity Calorimeter," *J. Instr.* **15** (2020) P09031.

A. Sirunyan et al. (CMS Collaboration), "Search for a light pseudoscalar Higgs boson in the boosted $\mu\mu\tau\tau$ final state in proton-proton collisions at $\sqrt{s} = 13$ TeV," *J. High Energy Phys.* **08** (2020) 139.

Selected Invited Seminars, Colloquia, and Lectures

"Detectors" 2025
1-7 July 2025, CERN Summer Student Lecture Programme
Geneva, Switzerland

"The CMS High Granularity Calorimeter Upgrade for the High-Luminosity LHC" 2023
22 March 2023, University of Virginia High Energy Physics Seminar
Charlottesville, VA

"Detector Upgrades for the High Luminosity Large Hadron Collider" 2024
26 March 2024, Aspen 2024 Winter Conference: The Future of High Energy Physics—A New Generation, A New Vision
Aspen, CO

"Searches for New Light Scalar Particles using the Present and Future Compact Muon Solenoid Detector" 2021
1 April 2021, Florida State University Physics Department Colloquium
Tallahassee, FL (virtual)

"CMS Silicon Detectors Today and Tomorrow: The Current Pixel Detector and the Future High Granularity Calorimeter" 2021
26 February 2021, Rutgers University Experimental High Energy Physics Seminar
Piscataway, NJ (virtual)

"Searches for Exotic Higgs Decays at CMS" 2020
27 January 2020, University of Tennessee Physics Department Colloquium
Knoxville, TN

Grants and Subawards

"High Energy Research at Florida State University" 2025-2026
US Department of Energy Office of Science
$897,000 shared among 7 co-PIs

"USCMS Tracker SOW" 2023-2025
US Department of Energy Office of Science
$26,460

"High Energy Research at Florida State University" 2022-2025
US Department of Energy Office of Science
$2.7M shared among 9 co-PIs

"Statement of Work for Florida State University for Activities Related to the High Luminosity (HL) LHC CMS Detector Upgrade Project: Calorimeter Endcap" 2020-2025
US Department of Energy Office of Science
$1.3M shared among 2 co-PIs

"Probing New Physics with Tau Leptons using the CMS Detector" 2018-2023
US Department of Energy Early Career Research Program
$750,000

Community Involvement and Professional Service

Member, FSU Circus of Physics Organizing Committee	2025
Ask a Scientist, First Fridays at Railroad Square, Tallahassee, FL	2024
Reviewer, *Journal of Instrumentation*	2022 - present
Reviewer, US DOE Office of High Energy Physics	2021 - present
Co-convener, Snowmass Instrumentation Frontier Topical Group on Calorimetry	2020 - 2022
Reviewer, FSU Postdoctoral Travel Awards	2018 - present