



Caterina Vernieri

Assistant Professor of Particle Physics and Astrophysics

Bio

BIO

Caterina Vernieri received her PhD on the CMS experiment from the Scuola Normale Superiore in Pisa, Italy, in 2014 and then moved to Chicago for a postdoctoral fellowship at the Fermi National Accelerator Laboratory. She joined SLAC in 2018 as a Panofsky Fellow and moved to the ATLAS experiment, and in 2022 she became Assistant Professor.

Throughout this time, she has been devoted to studying the Higgs boson using data from the LHC. She co-led the group in the CMS experiment studying the Higgs decay to b quarks at the time that this important decay process was finally discovered in the data. At SLAC, Caterina is working with the ATLAS experiment at the LHC with a focus on Higgs physics. She is responsible for the integration activities at SLAC of the new ATLAS Pixel Inner Tracker detector.

She was also co-convener of the group on Higgs boson properties in the US national study of the future of particle physics.

ACADEMIC APPOINTMENTS

- Assistant Professor, Particle Physics and Astrophysics

HONORS AND AWARDS

- Early Career Award, Department of Energy (2021-2026)
- Panofsky Fellow, SLAC (2018-2022)
- Distinguished Researcher, LPC at Fermilab (2017-2018)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- L3 Manager of loading and integration for the silicon pixel detector, US ATLAS experiment upgrade for the HL-LHC (2018 - present)
- Co-convener of the Higgs Boson properties and couplings group (EF01), Particle Physics Community Planning Exercise (Snowmass) by the American Physical Society, DPF (2020 - 2022)
- Coordinator of the HH physics studies for HL-LHC, ATLAS experiment (2019 - 2021)

PROFESSIONAL EDUCATION

- PhD, Scuola Normale Superiore, Pisa, Italy, Physics (2014)

LINKS

- SLAC Public Lecture - A Camera for the Invisible: <https://youtu.be/kjIfRrHW5M?t=1>
- Higgs physics at future colliders: <https://ep-news.web.cern.ch/higgs-physics-future-colliders>
- List of Talks: <https://www.dropbox.com/s/i6llctj31vw11r/list-talks.pdf?dl=0>

Research & Scholarship

PROJECTS

- ATLAS Experiment at the LHC, CERN
- Snowmass 21 (Energy and Instrumentation Frontiers) (2020 - 2022)
- Future colliders and detectors R&D: MAPS for tracking and calorimetry

Teaching

COURSES

2023-24

- Introduction to Particle Physics I: PHYSICS 152, PHYSICS 252 (Spr)

STANFORD ADVISEES

Postdoctoral Faculty Sponsor

Laura Pereira Sanchez

Doctoral Dissertation Advisor (AC)

Dimitris Ntounis, Mirella Vassilev