The Ohio State University Department of Physics is one of the university’s largest and most diverse departments conducting world-class research. It is a top 25 physics department in the country, providing the fundamental core curriculum for all of the sciences at Ohio State.

THE LARGE HADRON COLLIDER (LHC)

The Large Hadron Collider, at the European Organization for Nuclear Research (CERN), is the world's highest energy accelerator used by physicists to study the smallest known particles—the fundamental building blocks of all things. It is made up of intersecting rings 27 km in circumference and spans the border between Switzerland and France about 100 miles underground.

Ohio State is the only institution in the United States collaborating on three of the four largest LHC experiments, ALICE, ATLAS and CMS, to analyze the myriad of particles produced by the collisions in the accelerator.
THE SCARLET LASER LAB

SCARLET: the Science Center for Advanced Research on Lasers and Engineered Targets. Ohio State is one of only a handful of universities in the nation to have such an ultra-intense laser facility. The faculty associated with SCARLET, the High Energy Density Physics group, focuses on experiments using basic laser physics that will help advance breakthroughs in fusion energy, cancer therapy, and national security.

STUDENT EXCELLENCE

In 2011, three physics undergraduates received National Science Foundation (NSF) Graduate Fellowships, an undergraduate was selected for the Winston Churchill Scholarship—one of only 14 in the country—another undergraduate was awarded a Fulbright Scholarship; two graduate students received NSF Graduate Research Fellowships.

COMMUNITY OUTREACH

GIRLS REACHING TO ACHIEVE IN SPORTS AND PHYSICS (GRASP)
an annual summer camp aimed at making physics fun, relevant and accessible to middle school girls

GRADUATE WOMEN IN PHYSICS TAKE SCIENCE TO THE COMMUNITY
a hands-on science lesson for young children in the African American and African Studies Math and Science Program at the African American and African Studies Community Extension Center to help increase comfort levels with math and science

SIGMA PI SIGMA PHYSICS HONOR SOCIETY
members volunteer at the Ohio State Fair, local elementary schools, and local Girl Scout chapters, bringing hands-on learning activities and demos to fans of all ages

CENTERS

CENTER FOR COSMOLOGY AND ASTROPARTICLE PHYSICS (CCAPP)
houses leading efforts in studies of dark energy, dark matter, the origin of cosmic structure, and the highest energy particles in the universe

THE CENTER FOR EMERGENT MATERIALS (CEM)
an NSF funded Materials Research Science and Engineering Center focusing on integrated research on emergent materials and phenomena in magnetoelectronics, creating new paradigms in computing and information storage

THE CENTER FOR EXPLORATION OF NOVEL AND COMPLEX MATERIALS (ENCOMM)
focuses on research in electronic, magnetic, and organic materials to advance the discovery of new forms of energy its nanosystems laboratory advanced material characterization and fabrication tools including focused ion beam/scanning electron microscopy, e-beam lithography, nanomanipulation, EDS X-ray microanalysis, X-ray diffractometry, SQUID magnetometry, atomic force/magnetic force microscopy, low temperature magnetotransport measurements, Magneto-optical Kerr Microscopy, Thin Film Deposition, and Langmuir-Blodgett trough monolayer deposition

Girls at GRASP camp discover the fun of physics

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