

Department of Physics and Astronomy



REU 2016— Nick Cinko

The Large Hadron Collider (LHC) accelerates two particle beams to nearly the speed of light through its 27 km underground ring. Traveling in opposite directions, groups of protons smash together 40 million times each second at several points along the ring. The Compact Muon Solenoid (CMS) is a general-purpose detector built around one of these collision points. This past summer, I had the opportunity to live on the CERN campus, the home of the LHC, while working with the Wisconsin High Energy Physics group on the CMS experiment. I focused on studying the efficiency of computer algorithms used to “reconstruct” tau leptons from experimental data. Since tau leptons are short-lived particles, they are not measured directly; instead, their decay products are measured and used to infer the previous existence of a tau lepton. On the weekends, I traveled across Europe and hiked in the Alps. This REU program (hosted by the University of Michigan) is an excellent way to join the forefront of high energy physics research while gaining the cultural experiences of a traditional study-abroad program.