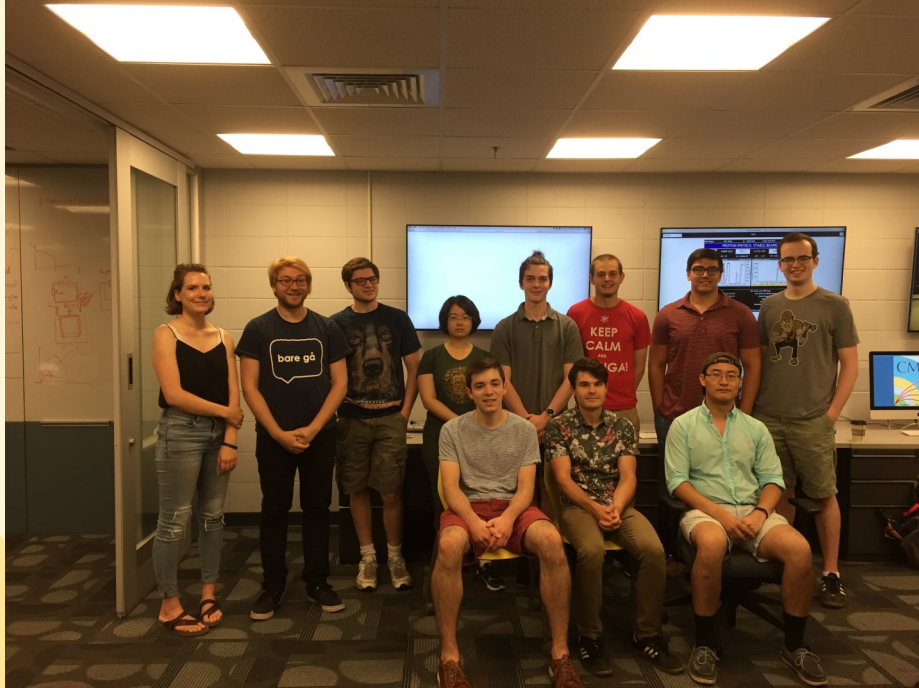


Department of Physics and Astronomy



Research with the CMS Detector

Dr. Jung's Group

Ample opportunities exist to contribute to the research and development of the High-Luminosity upgrade for the CMS detector. The Purdue Silicon Detector Laboratory (PSDL) is an in house facility with two clean rooms used to assemble and test silicon pixel modules using a robotic gantry and high precision probe stations. The group is currently focused on the development of support structure prototypes made from carbon fiber laminates, carbon foam, and silicon pixel mock-ups. The prototypes are tested to determine the thermal properties in the same conditions they will be exposed to in the CMS detector. The production and testing of these prototypes is done in our own labs with equipment such as a vacuum curing oven, a precision coordinate measuring machine, and a liquid CO₂ cooling system.