The Hope College Nuclear Group uses state-of-the-art nuclear physics techniques to characterize short-lived radioactive nuclei created with the newest generation of radioactive nuclear beam facilities. For example, experiments have recently been performed at the Nuclear Structure Laboratory at the University of Notre Dame involving radioactive nuclear beam studies of $^7\text{Be}$ projectiles on $^{12}\text{C}$ targets. Undergraduates were involved in every aspect of detector fabrication and set-up, data taking and analysis and eventual publication. The alpha-transfer reactions of this reaction will lead to new insights into the single most important uncertainty remaining in helium-burning process in stars. We are also important collaborators in the construction and operation of the MOdular Neutron Array (MONA) at the National Superconducting Cyclotron Laboratory at Michigan State University.