The University of Birmingham has a diverse programme of nuclear-related activities, from active nuclear structure research to applications and nuclear data experimentation. These endeavours are supported by the in-house MC40 cyclotron facility which contributes to all areas of interest and complements the research undertaken overseas at international facilities. This talk will cover a range of results from contemporary experimental studies of clustered hadronic systems relevant to nucleosynthesis and discuss these together with possible new measurements. Additionally, some applications of nuclear science will be presented.