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**Nuclear Equation of State: How can we learn about Neutron Stars from Atomic Nuclei?** DINESH SHETTY, SHERRY YENNELLO, GEORGE SOULIOTIS, Cyclotron Institute, Texas A&M University — The structure and the stability of a neutron star, a dense and neutron-rich object formed in a supernova collapse, depends on a complex relation between the pressure, density and temperature, known as the nuclear Equation Of State (EOS). The determination of the nuclear EOS is crucial for studying many astrophysical problems such as the cooling of neutron star, determining its maximum mass, radius, etc. I will show how by studying the structure of neutron-rich nuclei and the dynamics of collision between them in terrestrial experiments, one can learn about the nuclear equation of state.

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