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### **Taking a Broad Look at the Nuclear Equation of State<sup>1</sup>**

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The relation between pressure and density in hadronic matter, known as the nuclear equation of state (EoS), plays a major role in nuclear and astrophysical systems. In particular, microscopic studies of nuclear matter under extreme conditions of isospin asymmetry (that is, different neutron and proton concentrations), are of great contemporary interest. Together with parallel experimental effort, they can help constrain models of the nuclear force through the unusual topologies of rare isotopes. Recent efforts in my group have been aimed at exploring the EoS through a broad spectrum of theoretical studies involving isospin asymmetries as well as other exotic states of nuclear matter, such as the presence of strange baryons. The approach we take is microscopic and relativistic. The predicted EoS properties are derived self-consistently from realistic nucleon- nucleon forces. I will review recent results and point out the need for more stringent constraints.

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